VITA SMART.FIRE®

Instructions for use

| VITA shade determination | VITA shade communication | VITA shade reproduction | VITA shade control |

VITA – perfect match.

VITA

The efficient firing unit for chairside restorations

Dear customer,

Congratulations and thank you for choosing the VITA SMART.FIRE firing system.
The VITA SMART.FIRE firing system is manufactured using the highest quality standards, and
is equipped with modern hardware and software for easy and intuitive control and operation.

In order to use the firing system effectively, please read these instructions for use completely.
These instructions must always be kept close to the device. They must be read and used by
all persons who operate, clean and maintain the system.

I hope you enjoy VITA SMART.FIRE and achieve great results!

Your product manager for VITA dental devices and accessories, VITA Zahnfabrik

Explanation of symbols:

- **System/technology info**
- **Note**
- **Please note**
- **Process**
- **Modifiable parameters**
- **Hotline and support**

🔲 1. The system

VITA chairside system		
VITA SMART.FIRE Chairside firing unit	**VITA vPad excellence** Control unit	**VITA ZYRCOMAT 6100 MS** High-speed sintering furnace

1.1 The firing unit

Furnace head

Firing base

Base
Accessory drawer

Main switch

Mains power
supply connection

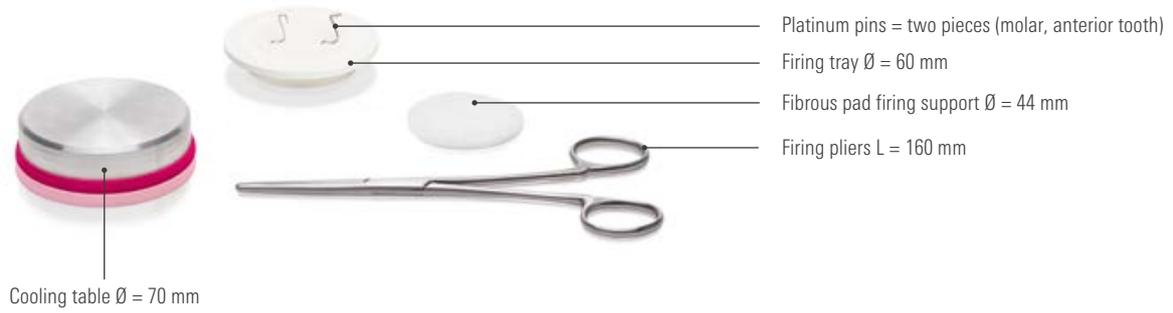Power connection
for vacuum pump

Control unit
connection

Vacuum

Fuses

💡 Note:
- The space-saving VITA SMART.FIRE chairside firing unit is suitable for veneering, crystallization, glaze, stain and corrective firing.

1.2 Accessories

Platinum pins = two pieces (molar, anterior tooth)

Firing tray Ø = 60 mm

Fibrous pad firing support Ø = 44 mm

Firing pliers L = 160 mm

Cooling table Ø = 70 mm

Note:

- For convenient access to all important accessories, the accessory set is integrated in the firing unit.

2. First use

2.1 Starting firing in six steps

1 Connect the firing unit and the control unit to the connecting cable.

2 Connect the firing unit to the power supply.

3 Turn on the main switch.

4 Press on the drawer front panel to remove the accessories.

5 Select the firing program.

6 Start the firing process.

Note:
- Make sure that the metal ring that goes around the firing tray is free of dust and other particles.
- Remove crumbs from the firing tray with a brush.

Please note:
- The firing unit may not be connected to power strips with an extension since there is a risk of fire if electrical cables are overloaded.

2.2 Setting up the firing unit
- Please ensure that the following conditions are met.

Please note:
- The distance between the firing unit and the nearest wall must be at least 20 cm.
- There should be at least 15 cm of clearance above the firing unit when the firing chamber is open.
- Do not place the control unit in the heat emissions range of the firing chamber.
- The distance between the firing unit and the control unit must be at least 20 cm.
- The ventilation openings on the top of the firing unit must not be covered.
- Set up the device in such a way that the main switch can be easily accessed and the power supply cable can be easily disconnected.
- Ensure that the unit is installed on a heat-resistant and non-flammable surface.
- The emissions and heat radiation of the device are within a non-hazardous range.
  However, nearby, temperature-sensitive surfaces and materials could still be damaged by heat.
- Avoid exposing the unit to direct sunlight.
- Do not place flammable objects near the firing unit.

2.3 Switching off the firing unit and control unit

- When the unit is not in use, move the furnace head downward and switch off the unit from the main switch.
- Closing the furnace head protects against moisture entering the unit.

2.4 Cleaning the firing unit and control unit

VITA SMART.FIRE Furnace

- Disconnect the unit from the power supply before cleaning.
- The housing must only be cleaned with a damp cloth and no cleaning agent.
  No flammable liquids or solvents may be used.
- The inside of the firing chamber does not need to be cleaned.
- Remove crumbs from the firing tray with a brush.

VITA SMART.FIRE control unit

- Clean the display at regular intervals with a screen cleaner.
- Screen cleaners are especially good since they do not cause any scratches, have an antistatic effect
  and prevent further dirt accumulation.

! **Please note:**
- Damage to the display resulting from improper use during operation or cleaning is excluded from the VITA warranty.

3. Scope of supply / system solutions

3.1 VITA SMART.FIRE scope of supply

Product	Scope of supply
VITA SMART.FIRE chairside firing unit 1) 220 V – 230 V 2) 110 V 3) 100 V	1x
VITA SMART.FIRE control unit	1x
Firing base	1x
Round firing trays	1x
Firing pliers	1x
Round fibrous pad firing support (o 44mm)	1x
Platinum pins (1 anterior and 1 posterior pin)	2x
Cooling table	1x
Insert for accessory drawer	1x
Cable for connecting firing unit and control unit	1x
Power cable 1) 220 V – 230 V EU 2) 110 V 3) 220 V – 230 V GB 4) 220 V – 230 V CN 5) 220 V – 230 V CH 6) 220 V – 230 V ZA 7) 220 V – 230 V AU 8) 220 V – 230 V IL	1x
Instructions for use for the VITA SMART.FIRE firing system	1x

Note:
• All VITA SMART.FIRE components can be individually reordered.

4. Technical data / information

4.1 Technical data for firing unit

Dimensions (Ø / depth / height)	230 mm / 300 mm / 340 mm (closed)
Net weight	12 kg
Firing chamber internal dimensions (Ø / height)	80 mm / 43 mm
Firing chamber temperature	Max. 1050°C
Electrical connection	Specified on identification plate, tolerance ±10 %
Power consumption	Max. 950 W (230 V), max. 1100 W (100 V, 110 V)
Temperature range for operation:	10°C to 35°C
Humidity for operation	Max. 80% RH
Operating altitude	Max. 3,800 m above sea level
Classifications	EN 61010-10:2010 EN 61010-2-010:2014 UL 61010-1:2012 UL 61010-2-010:2015 CAN/CSA-C22.2 NO. 61010-2-010:2015 CE
Application area	Approved for indoor operation only

4.2 Technical data for control unit

Dimensions (width / depth / height)	260 mm / 150 mm / 200 mm
Net weight	1.6 kg
Temperature for operation	10°C to 35°C
Humidity for operation	Max. 80 % RH
Application area	Approved for indoor operation only

4.3 Symbols

	Product	Scope of supply
	Hazardous voltage	This pictogram warns the user about hazardous voltage. Before opening the instrument, always disconnect it from the mains current by unplugging the power plug.
	Hot surface	This pictogram warns the user about hot surfaces Burns are possible.
	Separate disposal	This unit and all accessories labeled with this symbol are subject to Directive 2002/96/EC (WEEE) and the applicable national regulations and may not be disposed of as unsorted municipal waste in the European Union (EU). Old units can be returned to VITA Zahnfabrik.
CE	CE marking	VITA SMART.FIRE complies with the applicable regulations of the European Union (EU). The declaration of conformity can be requested from VITA (Regulatory Affairs Department) at: www.vita-zahnfabrik.com

4.4 Information

Basic information on the device design
- The instrument is designed according to state-of-the-art technology and recognized safety standards.
- However, if it is used inappropriately, hazards for the health and safety of the operating personnel or third parties, as well as the risk of damaging the instrument and other material property, may arise.

Unauthorized modes of operation
- Do not operate the control unit with sharp-edged or hot objects. This causes damage to the display.
- The operation of the instrument with power sources, products, etc., which are subject to hazardous materials regulations or could have any negative impact on the health of the operating personnel when using equipment modified by the user, are not permitted.
- The unit may not be used without the firing tray. The firing tray must always be inserted in its designated recess at the bottom of the firing unit. The unit may not be used with a flammable narcotic agent with air or nitrous oxide.
- The device is equipped with a fan. The fan is temperature-controlled. Activation, deactivation and speed of the fan are controlled automatically. The fan prevents excessive heating of the unit and contributes to the overall operational safety. The openings in the top cover of the firing chamber must not be covered or closed.

Authorized modes of operation
- The insulation of the firing chamber contains ceramic mineral fibers (Index No. 650-017-00-08), which is classified as a CAT 2 carcinogen (Annex VI, EC 1272/2008). When working with the firing chamber or exchanging the firing muffle, fiber dust may be discharged.
- Exposure to this dust can be potentially hazardous to health if inhaled and result in irritation of the skin, eyes and respiratory organs. Therefore, always follow these instructions when replacing parts of the firing chamber:
- Wear long-sleeved protective clothing.
- Wear safety goggles, as well as protective gloves.
- Use a dust vacuum system or wear a FFP 2 respirator.
- Once work has been completed, rinse the dust from unprotected skin using cold water.
- Wash workwear separately from everyday clothing.
- The operation of the device is only permitted if these instructions for use have been completely read and understood and the procedures described in them have been observed. Any other or additional use, e.g., processing of products other than those intended, as well as handling of hazardous materials or substances injurious to health, is considered to be contrary to the recommended use.
- Repairs and servicing of any kind may only be carried out by specially trained personnel.

(!) **Please note:**
- The manufacturer/supplier will not be liable for any damage resulting from such unauthorized use. The risk is borne solely by the user.

4.5 Safety functions

The firing unit has the following safety and monitoring features:
1. Temperature sensor monitoring
2. Power supply failure protection
3. Obstruction sensor
4. Temperature protection switch
5. Automatic temperature calibration
6. In the event of danger or an emergency, the device can be switched off immediately using the mains switch

Temperature sensor monitoring
The temperature sensor monitoring feature detects a failure of the temperature sensor in the firing chamber. If a failure of the temperature sensor has been detected, the firing chamber is prevented from heating up and an error message is displayed.

Power supply failure protection
The instrument is equipped with power supply failure protection. This element prevents firing programs from aborting in the event of a short-term power failure. If the power failure time lasts less than 15 seconds, the current program will continue to run even though the display will remain out of service for the duration of the power failure. The current program is aborted if power is interrupted for more than 15 seconds. An error message is displayed once power is restored.

Obstruction sensor
The vertical movement of the firing head is controlled by computer. Any trapped objects are detected and the drive is switched off, if necessary. This prevents injuries caused by pinching. The system may still be operated without any restrictions after the drive is switched off.

Temperature protection switch
Temperature protection switches are installed in the housing of the firing unit and prevent the firing unit from overheating by switching off the heater if the heating control system malfunctions. An error message is displayed if this type of malfunction occurs. The firing system may not be used again until the system cools down. This can take some time.

Automatic temperature calibration
The temperature is automatically calibrated each time the firing unit is switched on.
This temperature calibration takes into consideration and corrects all deviations occurring in the electronic components for temperature measurement and temperature control. This ensures a constant temperature of ± 1°C, even if the unit remains in continuous operation for a long period.

5. Additional information

5.1 VITA system solutions

Shade determination

- For digital shade determination, use **VITA Easyshade LITE** or **VITA Easyshade V** and for visual shade determination, the **VITA Linearguide 3D-MASTER** or **VITA classical A1–D4,** for example**.**

CAD/CAM fabrication

- For CAD/CAM fabrication, VITA offers you **highly-esthetic feldspar ceramic, high-strength glass ceramic, innovative hybrid ceramic and zirconia**, as well as the zirconia-reinforced lithium disilicate ceramic **VITA AMBRIA** as a press ceramic – simply select the best material solution for your individual requirements.

Shade modification*

- For feldspar, glass ceramics and zirconia, use **VITA AKZENT Plus** stains and the **VITA LUMEX AC** or **VITA VM 11** veneering ceramics. In terms of metal ceramics, you can choose between **VITA VM 13** and **VITA VMK MASTER**, and for individualization of the **VITA ENAMIC** hybrid ceramic, either **VITA AKZENT LC** stains or **VITA VM LC** veneering resin.

Firing*

- Glaze, stain, and/or dentine and crystallization firing in the laboratory are best carried out with the **VITA VACUMAT 6000 M** premium firing unit, and in clinics with the **VITA SMART.FIRE** premium firing unit that is specifically tailored to chairside restorations.
- You can use the combipress unit **VITA VACUMAT 6000 MP** to fire and press your press ceramics.
- It is recommended to use the **VITA ZYRCOMAT 6100 MS** for sinter firing.
- Note: When using a hybrid ceramic, firing must not be carried out.

Polishing

- In the case of VITA feldspar ceramics, use polishing systems suitable for silicate ceramics (e. g., **VITA Polish Cera).**
- For VITA glass and hybrid ceramics, ideally the **VITA CERAMICS/ VITA ENAMIC Polishing Sets** should be used.

Luting

- **VITA ADIVA LUTING SOLUTIONS** are products for adhesive bonding of restorations made of feldspar, glass ceramic and hybrid ceramic, and are matched to VITA materials.

* Note "Optional process steps/firing": The feldspar and hybrid ceramic materials can be seated directly after milling and polishing. The following process steps mentioned above are optional for feldspar ceramic. The same steps are required for the hybrid ceramic, but with the hybrid ceramic, firing must not be carried out. When using zirconia, sinter firing is carried out prior to characterization/individualization.

5.2 Competitor material in the VITA SMART.FIRE

The VITA SMART.FIRE contains firing programs for Celtra Duo, IPS e.max CAD, and IPS Empress CAD.
However, it should be noted that the firings for IPS e.max CAD in VITA SMART.FIRE must be carried out on an Ivoclar Vivadent firing tray. The firings for IPS Empress CAD and Celtra Duo can be carried out on the VITA SMART.FIRE round firing tray with VITA platinum pins. The current firing parameters in the VITA SMART.FIRE for Celtra Duo, IPS e.max CAD, and IPS Empress CAD are to be used as guide values. Users must check for themselves that the equipment is suitable for the intended application.

5.3 VITA warranty and consumer protection

The VITA warranty and consumer protection document can be found on our website at:
https://www.vita-zahnfabrik.com/de/Oefen/VITA-Garantie-50694,27568.html

5.4 Update messenger

Software updates are available as a download on the website of the supplier, VITA Zahnfabrik.
To automatically have the latest device information emailed to you, an option to register is provided at www.vita-zahnfabrik.com/updatemessenger.

5.5 Spare parts

Spare parts must comply with the technical requirements specified by the manufacturer. This can only be ensured by using original VITA spare parts.

5.6 Patents and trademarks

VITA SMART.FIRE® is a registered trademark of VITA Zahnfabrik. Other trademarks mentioned in this document are the property of the respective company.

5.7 Copyright information

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5.8 Hotline and support

We are happy to help

▶ **Hotline Sales Support**
Mrs. Carmen Holsten and her team (Internal
Sales Department) will be glad to assist you
with orders or questions about delivery,
product data and marketing materials.

Phone +49 (0) 7761 / 56 28 84
Fax   +49 (0) 7761 / 56 22 99
8 a.m. to 5 p.m. CET
E-mail: info@vita-zahnfabrik.com

▶ **Technical Hotline**
If you have technical questions concerning
VITA product solutions, you can
contact Dr. Michael Tholey
and his technical service team.

Phone +49 (0) 7761 / 56 22 22
Fax   +49 (0) 7761 / 56 24 46
8 a.m. to 5 p.m. CET
E-mail: info@vita-zahnfabrik.com

▶ **VITA instruments service**
Please do not hesitate to contact us if you have any
questions concerning VITA instruments.
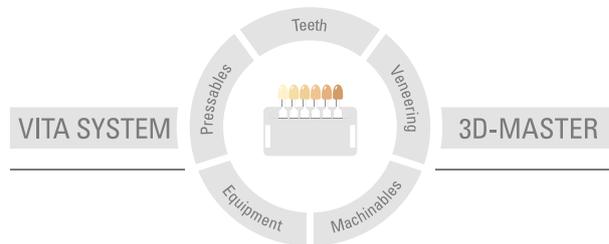
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THE SYSTEM

FIRST USE

SCOPE OF SUPPLY SYSTEM SOLUTIONS

TECHNICAL DATA INFORMATION

ADDITIONAL INFORMATION

More information on VITA SMART.FIRE
is available at www.vita-zahnfabrik.com

VITA SYSTEM | 3D-MASTER

Please note: Our products must be used in accordance with the instructions for use. We accept no liability for any damage resulting from incorrect handling or usage. The user is furthermore obliged to check the product before use with regard to its suitability for the intended area of applications. We cannot accept any liability if the product is used in conjunction with materials and equipment from other manufacturers that are not compatible or not authorized for use with our product and this results in damage. The VITA Modulbox is not necessarily a component of the product. Date of issue of this information: 2023-07

After the publication of this information for use any previous versions become obsolete. The current version can be found at www.vita-zahnfabrik.com

VITA SMART.FIRE is CE marked within the meaning of EC Guidelines 2014/35/EU, 2014/30/EU, 2011/65/EU.

VITA