

**DISCOVER THE NEW TREND
IN DIGITAL ARTISTRY**



Restoration by ChangHwan Kim

IDS CAD Products

Natura-Z Zirconia



Chang's Aurora

Multi-layered Translucent Zirconia Block

- Type: Wieland 98", ZirkonZahn 95"
- Size(mm): 12,14,16,18,20,22,25
- Colors: Lite, Dark



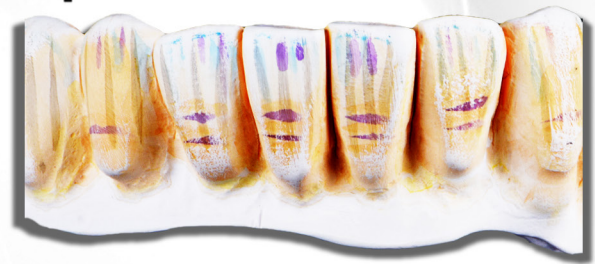
HT

High Strength Zirconia Block

- Type: Wieland 98"
- Size(mm): 12,14,16, 18, 20, 22, 25

Chang's Coloring Liquid & Tools

- 16 Base Shades (A1-D4)
- 17 Effect Colors
- 8 Deep Dentin Shades
- Full Set (16 Base Shades + 17 Effect Colors)
- Intro Kit (4 Base Shades + 6 Effect Colors)
- Coloring Brush Set (4 Brushes + Palette)



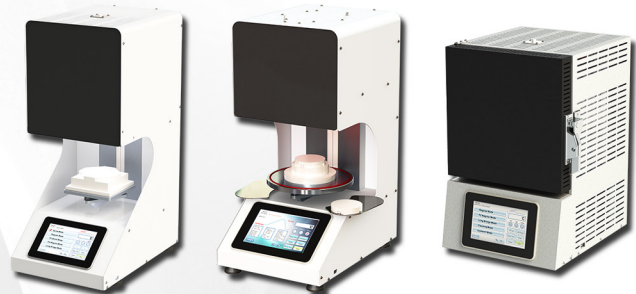
EX-SERIES : FURNACES

MACHINES

- EX-7100 Zirconia Sintering Furnace (2 HOUR FAST SINTERING!)
- EX-6100 Zirconia Sintering Furnace
- EX-3100 Ceramic Furnace

ACCESSORIES

Sintering Tray, Sintering Lid, Firing Tray, Tray Tongs, Zirconia Beads, Zirconia Sintering Powder, Temperature Ring



MILLING MACHINE

- DS200-5Z: 5-axis, Dry
- DS200-4W: 4-axis, Wet

ACCESSORIES

Model Block, Articulator, Burs



KAESER COMPRESSORS

Models

(Air center option available)

- Airtower 3C/4C/5C/7.5C
- SX3/SX4/SX5/SX7.5
- SM7.5/SM10/SM15
- SK15/SK20
- AS20/AS25/AS30



IDS CAD Products

WAX



- Weight 0.5 lbs
- Dimension 98" (Wieland)
- Size 14mm, 18mm
- Color White, Green, Grey

POLISHING WHEEL



Controlling surface roughness has become easier with our state of the art polishing wheel, which achieves even color application and a natural looking finish.

"DO NOT GO OVER 6000RPM"

IMPLANT JIG-GEL

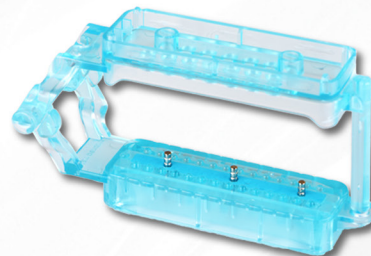
Implant Jig in 3 minutes!!

- Convenient Syringe Type
- Optimum Flow
- Fast Work Time & Easy to Build Up
- Light Cure Gun Type Can be Used
- Only 3 min for Light Cure
- Detaches Seamlessly



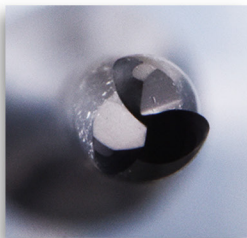
Size: 1.6gx2 & 12g

ARTICULATOR Smart Base



Accurate
&
Fast

IDS BURS



3 BLADES

for sizes 1.0mm and bigger



Machine Types & Sizes(mm)

- *Roland*: 2.0, 1.0, 0.6, 0.3
- *Amann Girrbach*: 2.5, 1.0, 0.6
- *ZirkonZahn*: 2.0, 1.0, 0.6
- *Wieland*: 2.5, 1.0, 0.6, 0.3
- *DS200*: 2.0, 1.0, 0.6, 0.3
- *VHF*: 2.0, 1.0, 0.6, 0.3

Bur Types :

Diamond, Carbide

EASY SCAN

Non-Flammable

Spray to prepare surfaces for friction testing of telescopic crowns and CAD/CAM scanning



EASY PEN

Pen to prepare surfaces for CAD/CAM scanning

Metal Scan
GUM Scan



EASY POWDER



EasyScan Powder is powder type of scan cover for preparing the surface for friction testing of telescopic crown and CAD/CAM scanning

Natura-Z Zirconia

Chang's Aurora

MULTILAYERED GRADATION



Restoration Courtesy using Chang's Aurora by Chang Hwan Kim



Possible to express aesthetics of an authentic tooth by implementing a color gradient of the natural tooth in the zirconia block itself, without using any porcelain powder.



Aurora Dark



Aurora Lite

700 MPA
80% Trans

1000 MPA
60% Trans

1200 MPA
40% Trans

Specification

- Suitable for most types of cases
- Highly recommended with anterior cases due to material's unique poly-chromatic appearance
- Integrated at maximum level of translucency



After Sintered



Gingiva Build-up



Final

4-unit bridge using Chang's Aurora by Chang Hwan Kim

Additional Information

- **Types** : Wieland 98" & ZirkonZahn 95"
- **Material** : ZrO₂ (Yttrium oxide - stabilized Zirconia)
- **Density** (g/cm³) : 6.07 g/cm³
- **Coefficient of Thermal Expansion** (25-500°C) : $11.5 \times 10^{-6}/K$

Natura-Z Zirconia HT



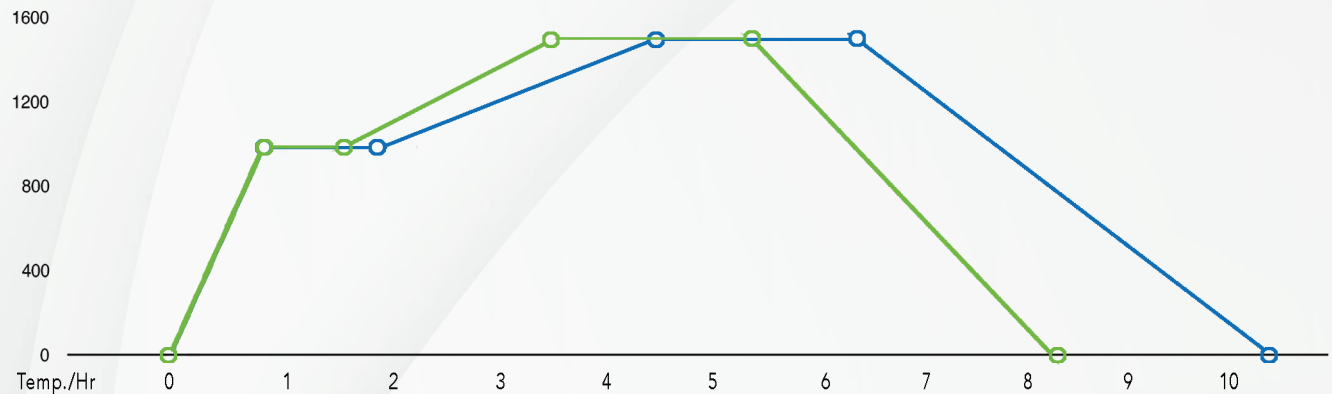
Natura-Z's particles, which are 200-250 nm in size, are a base powder that creates and produces a superior refining technology. The small and uniform particles are both dense and translucent. It produces a disc with a maximum diameter of 400 nm. The 300T pressed Zirconia block maintains stable and precise quality. The CIP (Cold Isostatic Pressing) machine creates 3 tons of pressing force, which creates uniform and tight products. Precise temperature control is available to manage the heat used to maintain certain block strengths.



Natura-Z Chang's Aurora Sintering Schedule

Regular Sintering Cycle

20 - 40 SINGLE CROWNS AND UPTO 6-UNIT BRIDGE (HIGH 1530°C)



HIGHLY RECOMMENDED

T1 : TEMPERATURE INCLINES FOR 50 MIN

Material property does not encounter any problem with the short time (50min), since the regular zirconia block was pre-sintered at almost 1000°C. This does not shrink the pre-sintered zirconia, raise about 10°C a min.

T2 : HOLDING FOR 30 ~ 60 MIN

Holding at 1000°C.

1000°C is a temperature which the zirconia block encounters for the first time, therefore, it should be increased slowly. This allows for a sustained period before increasing the temperature, this is the part that stabilizes the block. When the temperature gets higher, shrinkage is progressing minutely. Holding the temperature at 1000°C achieves consistent results with repeated sintering because the capacity and efficiency of the zirconia sintering furnace are different depending on each brand.

T3 : TEMPERATURE INCLINES FOR 110 ~ 150 MIN

This is an essential part to prevent serious shrinkage; it is the reason why having extra time when it reaches the highest temperature after holding 1000°C is vital. Utilizing this step will achieve consistent results without any 'locking phenomenon.' When the temperature reaches to 1200 °C, the particle's crystal condition changes and begins its earliest shrinkage. At 1450°C, all shrinkage has been completed. Therefore one must afford to give 150min to the part of raising 400~500°C. If the shrinkage is not uniform, the results will not be consistent, raise about 5°C a min until it reaches the temperature of 1530°C.

T4 : HOLDING FOR 120 MIN

This is the time to achieve translucency in the shrunken zirconia block. The time 120min gives the best results for translucency, this makes giving more time meaningless. 1530°C is the recommended sintering temperature of the NaturaZ block. Optimum translucency can be set at this temperature.

T5 : COOLING FOR AT LEAST 180 ~ 250 MIN

Zirconia is a very weak material at thermal shock. If cooling down from 1530°C in only 1 or 2 hours, the zirconia's strength becomes weak because of the rapid thermal change. When you compare zirconia translucency with cooling down slowly and rapidly; slowly cooling down zirconia is able to achieve more translucency, cool about 8°C a min.

Shorter Sintering Cycle

SINGLE CROWN ONLY (MAX 10) (HIGH 1530°C)

- ✦ THIS SCHEDULE IS ONLY FOR SINGLE CROWNS, 10 OR LESS.
- ✦ DO NOT USE THIS SINTERING SCHEDULE FOR MULTI-UNIT CASES.
- ✦ PLEASE CHECK THE TEMPERATURE CALIBRATION IN SINTERING MACHINE FROM TIME TO TIME.

- T1 - TEMPERATURE INCLINES TO 50°C**
- T2 - TEMPERATURE INCLINES TO 1000°C FOR 2 HRS**
- T3 - TEMPERATURE INCLINES TO 1530°C FOR 2 HRS**
- T4 - HOLDING FOR 2 HRS**

Longer Sintering Cycle

(HIGH 1530°C)

- ✦ REQUIRED FOR BRIDGES AND HYBRID CASES.
- ✦ COOLING TIME IS VERY IMPORTANT!!!
- ✦ IF COOLING TIME IS LESS THAN 4 HOURS, IT WILL INCREASE THE CHANCES TO CREATE MORE MICRO CRACKS.

- T1 - TEMPERATURE INCLINES TO 1000°C FOR 100 MIN**
- T2 - HOLDING FOR 60 MIN**
- T3 - TEMPERATURE INCLINES TO 1530°C FOR 212 MIN**
- T4 - HOLDING FOR 180 MIN**
- T5 - FIRST COOLING UNTILL 1000°C FOR 265 MIN**
- T6 - SECOND COOLING FOR 50 MIN**

Full Contour Ziconia Hybrid Case with pink porcelain by Raymond Seo



**The sintering schedules were created based on our extensive in-house testing.
The results may vary depending on your sintering machines and zirconia design.

Chang's Coloring Liquid Chart



Chang's Coloring Liquids are **water based** and **acid free**, used with only the **brush technique**. There are 18 different effect shades for desired characterizations. It provides intense saturation of color that penetrates deep into the zirconia material.



BASE SHADE/40ML	
No	Color
1	A1
2	A2
3	A3
4	A3.5
5	A4
6	B1
7	B2
8	B3
9	B4
10	C1
11	C2
12	C3
13	C4
14	D2
15	D3
16	D4

DEEP DENTIN/15ML	
No	Color
1	DA Lite
2	DB Lite
3	DC Lite
4	DD Lite
5	DA Dark
6	DB Dark
7	DC Dark
8	DD Dark

EFFECT/15ML	
No	Color
1	Grey
2	Grey Violet
3	Blue
4	Young Trans
5	Old Trans
6	Orange
7	White Opaq
8	Opal
9	Brown
10	Pink
11	Pink Orange
12	Opal White
13	Fluorescence
14	T-Glass Blue
15	T-Glass Grey
16	Mamelon Lite
17	Mamelon Orange
18	Dipping Enamel

Brush Technique

Preparation:

Zirconia crowns

Flat Brush #2

Palette

Bamboo Brush #0

Bamboo Brush #4

Chang's Coloring Liquids

- IDS CAD suggests 2 different ways to control the liquid, light and heavy brushing.
- IDS CAD will illustrate the basic coloring instructions. Please keep in mind that the coloring technique can be advanced through experience.
- All of our colors (minus white opaq.) can be mixed with one other to create even the most custom of shades.

For even more visual instructions please feel free to visit

<https://www.idscad.com/video/>

Heavy Brushing



1. Dip brush completely.



2. Apply with wider brush on surface with slow speed.

Light Brushing



1. Dip only half of brush.



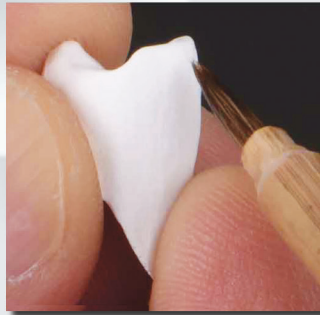
2. Squeeze brush lightly on the edge of palette.



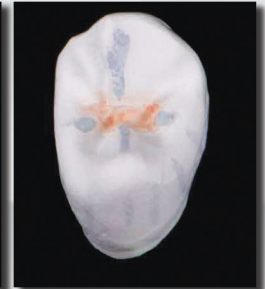
3. Use 1/3 of brush tip with faster speed.

Posterior

1. Apply **Gray**
(Optional to control value)



2. Apply small amount of
Orange-Pink on the
main groove



3. Apply **dentin**
(Heavy Brushing)



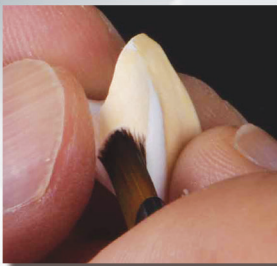

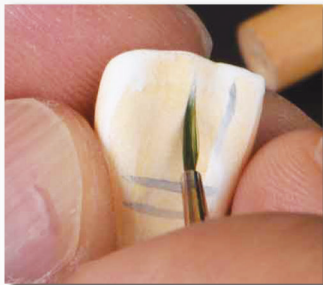

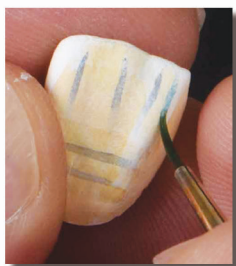
4. Apply **Young + Old**
(1:1) Trans on incisal 2/3
(Light Brushing)



5. Apply **Blue or**
T-Glass Blue



Anterior

1. Apply Gray (Optional to control value)	(Same technique as posterior step# 1)		
2. Apply small amount of Orange-Pink on cingulum, cervical, and proximal area			
3. Apply dentin (Heavy Brushing)			
4. Apply Opal on white band (horizontally) & on mamelon (vertically)			
5. Apply dentin in between 'Opal' on the white bands to increase chroma			
6. Cover with Young + Old (1:1) Trans (Light Brushing)			
7. Apply T-Glass Blue for strong translucency + window effect			

White Opaque Usage

Caution



Left without White Opaq. vs. Right with White Opaq.

Comparing the coverage of a pen marked inside the crowns.



Do not mix with other liquids and store in the refrigerator.

White Opaq. contains a bit of acid unlike other Chang's Liquids.
When mixed with other liquids, it becomes solid.

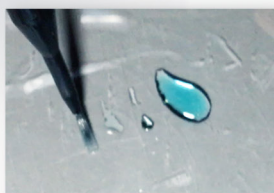
White Opaque Brush Technique



1. Drop small amount of White Opaq. on Palette



2. Dip the liquid with thin brush.



3. Remove the liquid excess three times.

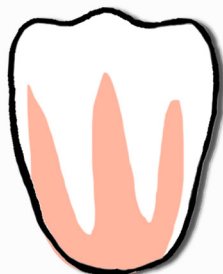


4. Brush inside of crown. A small amount is enough to achieve opaque effect.

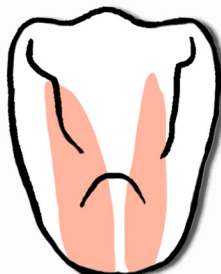
Deep Dentin Brush Technique

Deep Dentin penetrates color deeper + creates opacity

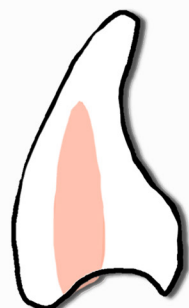
Use thin brush to apply



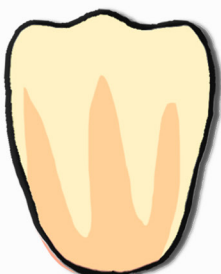
1. Choose the desired Deep Dentin Color and brush vertically on the middle



2. Draw lines on mesial and distal



3. Draw a line on proximal



4. Draw two lines on lingual

5. (DENTIN) Apply the desired dentin color on the entire surface with a flat brush

Chang's Aurora Bridges with Chang's Liquids



After Milling



After Coloring

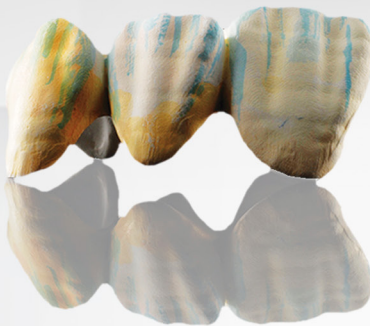


After Sintering & Glazing

Restoration Courtesy of Chang Hwan Kim



After Milling



After Coloring



Final

Restoration by JongYoon Park, CDT

IDS CAD provides 'Coloring Brush Set'



Palette



Flat Brush #2



Bamboo Brush #4



Bamboo Brush #0



Water Brush

MAXX Series DS200-5Z/4W

Milling Machine

Highlights:

- The most compact design among 5 axis machines using torque control servo (DS200-5Z)
- Ease-of-use GUI and ease-to-operate touch screen
- Capable of milling all soft materials (DS200-5Z)
- Capable of grinding glass ceramic and milling metal custom abutment (DS200-4W)



Specification

ITEM	DS200-5Z	DS200-4W
No. of Axis	5-axis	4-axis
Size and Weight	500W x 682D x 712H, Approx. 80Kg	500W x 682D x 712H, Approx. 60Kg
Controller and motors	Embedded PC (7"touch screen), AC Servo motor	
Index operating ranges	A = $\pm 25^{\circ}$, B = $\pm 180^{\circ}$	A = 0 ~ 180deg
No. of tools and tool spec.	Shank diameter: 3mm, ATC 8 Tools	
Spindle	BLDC motor, 300W 60,000rpm	
Blank Material& Size	Zirconia, Wax, PMMA, Ultimate Disc ($\phi 98$, Height: 10mm ~ 25mm) and pin type material	Glass ceramic, Custom Abutment, and pin type material
Cooling	Dry	Wet
Utility	AC220/6A & Compressed air (6.5 bar)	

EVERY MAXX MILLING MACHINES PURCHASED FROM IDS CAD COMES WITH THE FOLLOWING:



CAM software



Quatro Vacuum



**5 Chang's Aurora Zirconia blocks
+
Chang's Liquid Starter Kit
(over \$1000 value)**

Full Digital Dentistry **Milling Solution**

1. Minimize re-making and hand finishing

Low vibration, mechanical rigidity and thermal stability resulting from the granite base frame.

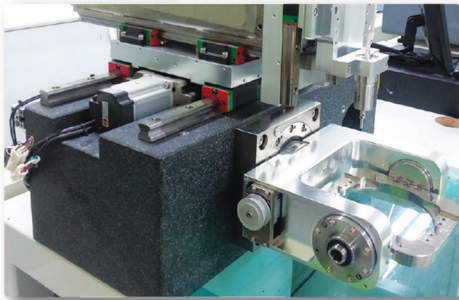
- To minimize margin chipping
- To enable coping margin to be thinly designed
- To minimize re-making and hand finishing for fit

2. Maximize productivity

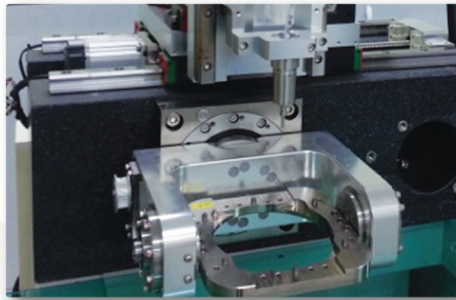
- Unmanned overnight and weekend operation by auto loader robot
- Operation of multiple machines by MAXX LINK
- Sister tool management for continuous operation

3. Advanced features

- Automatic calibration
- MAXX LINK for remote service, operation and training
- GO2CAM software with the most advanced performance



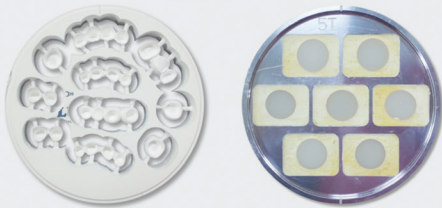
Granite based stage and index



Accurate assembly and measurement
on granite base frame



Operation and remote control
S/W



Dental Materials and Units

Zirconia, ultimate and soft materials
(DS200-5Z)

MODEL BLOCK



Weight .5 lbs
Dimensions 3 x 3 x 1 in

ARTICULATOR

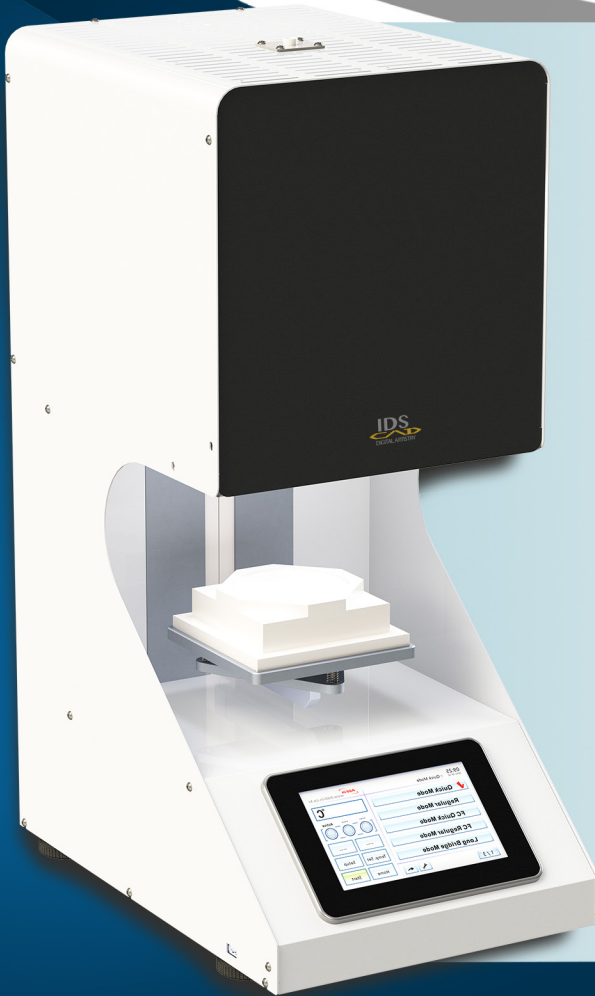
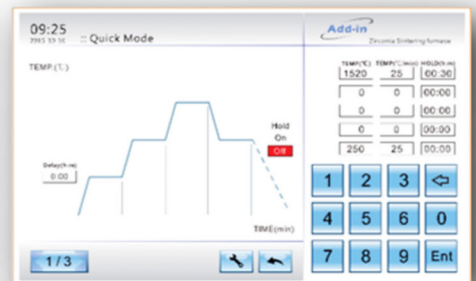
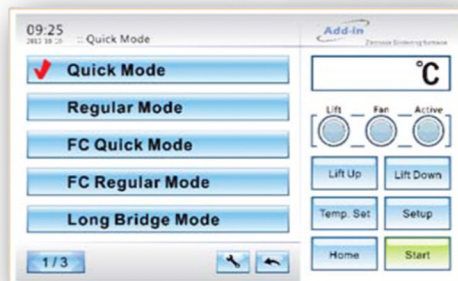


EX-7100

Zirconia Sintering Furnace

2 HOUR FAST SINTERING!

Front Panel 7" TFT LCD Touch Screen



Compact Design

- Roomy Interior Chamber
Φ 95mm x 110mm(H)
- Compact Size/Weight
303mm(W) x 456mm(D) x 747mm(H) / 50kg

7" TFT LCD Touch Screen

- Various Features and Easy to Use Touch Screen for All your Heating Needs

Mosi2 Coil

- 1600 ° C, Maximum Temperature

Programmable Schedules

- Fully Programmable & Capable of Creating Custom Cycles for Different Material Needs

Easy to Update

- Free Software Upgrades through USB Port
- Firing Cycle Upload / Download
- Alternate Control with USB mouse

EX-6100

Zirconia Sintering Furnace

Compact Design

- Roomy Interior Chamber
110mm(W) x 110(D) x 110(H)
- Compact Size/Weight
3354mm(W) x 391mm(D) x 527mm(H) / 35kg

7" TFT LCD Touch Screen

- Various Features and Easy to Use Touch Screen for All Your Heating Needs

Mosi2 Coil

- 1600 ° C, Maximum Temperature



EX-3100

Ceramic Furnace

PRECISION LOAD CELL, **ENCLOSED VACUUM PUMP**
& 900 PROGRAMMABLE SETTINGS!

Compact Design

- Roomy Interior Chamber
Φ 90mm x 64mm(H)
- Compact Size/Weight
268mm(W) x 378mm(D) x 566mm(H) / 25kg

7" TFT LCD Touch Screen

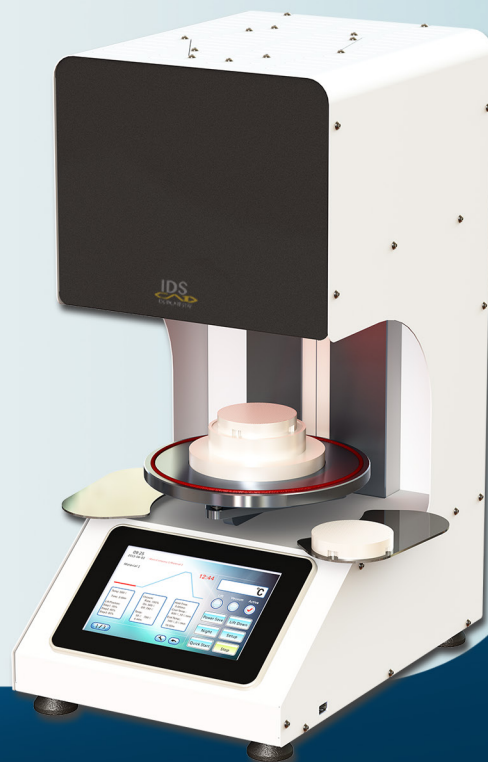
- Various Features and Easy to Use Touch Screen for All Your Heating Needs

Nickle Chrome Heating Coil

- 1200 ° C, Maximum Temperature

Easy to Update

- Free Software Upgrades through USB Port
- Firing Cycle Upload / Download
- Alternate Control with USB mouse



EX Series

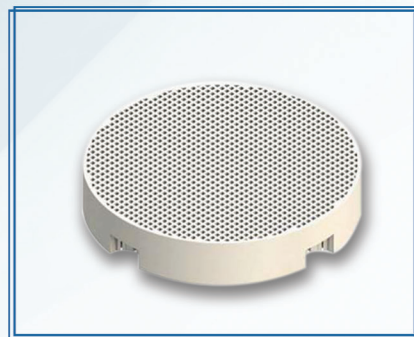
Furnace Accessories



Sintering Tray



Sintering Lid



Firing Tray



Tray Tongs



Temp. Control Ring



Zir. Sintering Beads



Zir. Sintering Powder

Part Name	EX-7100	EX-6100	EX-3100
Sintering Tray (Φ95 x 28)	✓	✓	
Sintering Lid (Φ95 x 20)	✓	✓	
Firing Tray & Pins (Φ70 x 13)			✓
Tray Tongs (400mm)	✓		
Zirconia Beads (Φ2)	✓	✓	
Zirconia Powder (200g & 400g)	✓	✓	
Temperature Ring	✓	✓	

KAESER COMPRESSORS

KAESER'S LINE OF SMALL ROTARY SCREW AIR COMPRESSORS IS SUITABLE FOR DENTAL LABS AND ANYONE NEEDING AN EFFICIENT AND RELIABLE COMPRESSED AIR SYSTEM



Airtower to AS Series

Horsepower: 3 to 30 hp

Capacities: 8.8 to 141 cfm

Standard pressures: 80 to 217 psig

Versatile V-belt Drive

Kaeser screw compressors with V-belt drive are economical, efficient, and reliable. The automatic tensioning device ensures excellent transmission efficiency over the life of the unit and reduces maintenance costs. Screw compressors with V-belt drive are especially flexible if an increase in working pressure becomes necessary.

SCREW COMPRESSORS WITH BELT DRIVE: SPECIFICATIONS (AIR CENTER OPTION AVAILABLE)

MODEL	RATED MOTOR POWER	FLOW CAPACITY AT 125 PSIG
Airtower 3C/4C/5C/7.5C	3 hp to 7.5 hp	12 cfm to 28 cfm
SX 3 / SX 4 / SX 5 / SX 7.5	3 hp to 7.5 hp	12 cfm to 28 cfm
SM 7.5 / SM 10 / SM 15	7.5 hp to 15 hp	32 cfm to 53 cfm
SK 15 / SK 20	15 hp to 20 hp	71 cfm to 88 cfm
AS 20 / AS 25 / AS 30	20 hp to 30 hp	99 cfm to 141 cfm

IDS CAD Milling Service

Turnaround time: Based on receiving file/model before 3:00 PM EST

Natura-Z Zirconia Restoration

HT (1200mpa Zir.) : Recommended for posterior cases.

Chang's Aurora (Multi Strength Zir.) : Recommended for anterior and esthetic cases.

* These prices can be negotiated based on quantity.

* These times are based on business working days. Our office is open Mon-Fri 8:00 am to 6:00 pm ET.



"IDS CAD cordially invites you to discover our Digital Artistry. Experience how it all began and gain insight into our production."

THANK YOU FOR YOUR INTEREST IN IDS CAD. IF YOU WISH TO BECOME A DEALER OF OUR PRODUCTS, PLEASE CONTACT US THROUGH THE INFORMATION PROVIDED BELOW. WE ARE ALWAYS LOOKING FOR NEW OPPORTUNITIES TO EXPAND OUR BUSINESS.



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