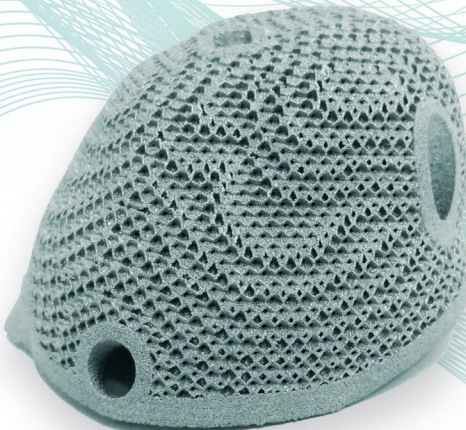


quality + tradition + innovation



Dental technology and more

- SLM Machine
- CAD/CAM Milling Machines
- Sinter Furnaces
- Zirconia Blanks
- and more



www.dentas.eu

Milling machines

One for all materials

All our milling machines allow processing of various materials: cobalt-chromium, titanium and titanium alloys, zirconium oxide, lithium disilicate (glass ceramics), resins like PMMA composite, wax, nano-composites and other materials, yet to come in the future.

They are all achieving highest standards in quality, speed, precision, and compatibility. Our machines offer an extremely favourable ratio between the price and quality; they are compact, space-saving and mobile. They all provide five-axial simultaneous operations with automatic

tool change and a built-in cooling system, so there's no additional water supply needed. Only standard electrical inlet and compressed air supply are needed for operating. The machines differ in size and capacity and meet demands of every dental laboratory.

The human influence is minimal, so chances of mistakes are minimized.

An automatic switch-off feature of vital functions after the end of machining saves energy; remote support and service possibility add to the flexibility and shorten the response time vastly.

beluga one for all

ARROW MILL BELUGA

The Arrow Mill Beluga machine raises competitiveness and reliability of your laboratory since it provides high productivity, high-quality surface treatment and a high level of flexibility due to the large tool changer. Materials can be treated with the highest precision. It is built on cast iron construction that ensures minimal vibration. It is suitable for large and medium-sized laboratories.

Technical data

- axes: 5-axial simultaneous operation
- working area: X: 150, Y: 200, Z: 70, A: 360°, B: ±30°
- exceptional dynamics provided with five servo motors; maximum axis travel speed up to 10 m/min
- minimum resolution 0,001 mm
- spindle: high-frequency spindle (Jaeger 6000 to 60.000 rpm); Pmax/5s 2,5 kW
- spindle cooling system with pump 21 l/min
- mounting system WK 6°-1/ER 11 for tools with a diameter up to 6 mm
- automatic tool change (capacity up to 18 tools)
- automatic tool length calibration and broken tool detection
- wet and dry treatment
- instant dust extraction during machining of zirconia (optional; with Arrow cleaner)
- compressed air minimum 6 bar at 120 l/min
- power supply: 230 V, 50/60 Hz
- the machine is equipped with wheels for easy transportation and positioning



Dimensions

Width: 760 mm
 Height: 1600 mm
 Length: 1080 mm
 Weight: 450 kg



smart one for all

ARROW MILL SMART

The Arrow Mill Smart machine offers additional value for your laboratory with high accuracy and productivity. It allows great flexibility due to the large tool changer. It is built on cast iron construction that ensures minimal vibration. Smart is suitable for large, medium and small-sized laboratories. It can be placed on top of the furniture, so it saves space.

Technical data

- axes: 5-axial simultaneous operation
- working area X: 130, Y: 200, Z: 90, A: 360°, B: ±30°
- very good dynamics provided with five servo motors; maximum axis travel speed up to 10 m/min
- minimum resolution of 0,001 mm
- spindle: high-frequency spindle (Jaeger 6000 to 60.000 rpm); Pmax/5s: 2,5 kW
- spindle cooling system with pump 21 l/min
- direct tool clamping system for tools with a diameter of 4 or 6 mm
- automatic tool change (capacity up to 15 tools)
- automatic tool length calibration and broken tool detection
- wet and dry treatment
- instant dust extraction during machining of zirconia (optional; with Arrow cleaner)
- compressed air minimum 6 bar at 120 l/min
- power supply: 230 V, 50/60 Hz

Dimensions

Width: 600 mm
Height: 930 mm
Length: 910 mm
Weight: 220 kg

Pedestal dimensions

Width: 600 mm
Height: 650 mm
Length: 910 mm
Weight: 55 kg

The pedestal is equipped with wheels for easy transportation and positioning.



sirio one for all

ARROW MILL SIRIO

The Arrow Mill Sirio machine is especially easy to use since the operation is achieved by special user-friendly software, and it's just right for the first time CAD/CAM machine user. It is suitable for medium and small-sized laboratories.

It is built on aluminium construction that reduces weight and ensures stability and can be placed on top of the furniture, so it saves space.

Technical data

- axes: 5-axial simultaneous operation
- working area X: 100, Y: 100, Z: 65, B: 360°, A: ±30°
- good dynamics provided with five stepper motors; maximum axis travel speed up to 7 m/min.
- minimum resolution of 0,001 mm
- spindle: high-frequency spindle (Jaeger 6000 to 60.000 rpm); Pmax/5s: 1 kW
- direct tool clamping system for tools with a diameter of 4 mm
- automatic tool change (capacity up to 8 tools)
- automatic tool length calibration and broken tool detection
- wet and dry treatment
- instant dust extraction during machining of zirconia (optional with Arrow cleaner)
- compressed air minimum 6 bar at 120 l/min
- power supply: 230 V, 50/60 Hz

Dimensions

Width: 570 mm
Height: 730 mm
Length: 580 mm
Weight: 125 kg

Pedestal dimensions

Width: 570 mm
Height: 830 mm
Length: 580 mm
Weight: 45 kg

The pedestal is equipped with wheels for easy transportation and positioning.

Sintering furnaces and more

ARROW PROTECT TERM FURNACE

High-temperature sinter furnace

Speed sinter furnace constructed not only for ZrO₂ ceramics (zirconia) but also for sinter metals as well as for thermal stabilization, which is possible because of the use of inert gas. Arrow Protect Term offers notably reduced sinter times.

Sintering programme control was developed specifically for Arrow Protect Term. It's easy to use; sintering with a push of the button. The furnace is heated according to the parameters defined by the user. Sintering is possible with or without an inert gas, depending on the material. Minimal consumption of the inert gas ensures the flow control in the Arrow Protect Term chamber.

Inner ceramic insulation provides that the furnace housing is cooler and thus saving energy.

Technical data

- 230 V A/C ±13%, 50/60 Hz, max 3600 W
- 4 speed heating elements (MoSi₂ 1900° C)
- maximum temperature 1500° C, option 1600° C
- inert gas minimum 1 bar at 1 l/min (only with sinter metals or when stabilizing)
- capacity: two bowls of Ø 100 x 35 mm



- heating rate: 6-60° C/min
- minimum time of sinter process is 90 min
- precise temperature control in up to three temperature steps
- user-friendly user interface with a touch-screen display

Dimensions

Width: 500 mm
Height: 600 mm
Length: 780 mm
Weight: 40 kg

ARROW SPEED FURNACE

High-temperature sinter furnace

Speed sinter furnace for ZrO₂ ceramics (zirconia) with notably reduced sinter times.

Arrow Speed is highly efficient and easy to use; sintering with a push of the button. The furnace is heated according to the parameters defined by the user, so a variety of settings, according to the sensitivity of the sintered object, can be applied. Inner ceramic insulation provides that the furnace housing is cooler and thus saving energy.

Technical data

- 230 V A/C ±13%, 50/60 Hz, max 3600 W
- 4 speed heating elements (MoSi₂ 1900° C)
- maximum temperature 1600° C
- capacity: two bowls with Ø 100 x 35 mm
- heating rate: 6 – 60 °C/min
- minimum time of sinter process is 90 min



- precise temperature control in up to three temperature steps
- user-friendly user interface with a touch-screen display
- two types of housing
- heating chamber opens in a vertical direction

Dimensions

Width: 325 mm
without console;
with console 520 mm
Height: 570 mm
Length: 550 mm
Weight: 38 kg

ARROW FURNACE

Intended for sintering dental restorations made of ZrO_2 ceramics (zirconia) up to the temperature of $1500^\circ C$.

Arrow Furnace is equipped with a Jumo regulation system and two heating elements, which provide efficient heat for a perfect process of sintering at low energy consumption.

The furnace is heated depending on the parameters defined by the user and after the finished process it cools down gradually and automatically. Slow cooling is important to prevent extreme temperature differences which could have an impact on the dental products. Inner ceramic insulation provides that the furnace housing is cooler and thus saving energy. Safety lock prevents accidental opening of the furnace.

Dimensions

Width: 600 mm Length: 490 mm
Height: 350 mm Weight 35 kg

IT'S OUR CLASSICS.



Technical data

- 230 V A/C $\pm 13\%$, 50/60 Hz, max 2000 W
- energy consumption 820 W/h
- 2 heating elements ($MoSi_2$, $1900^\circ C$)
- maximum temperature $1500^\circ C$
- capacity: two inserts of $80 \times 80 \times 40$ mm
- heating rate: $15^\circ C/min$

ARROW CLEANER

The Arrow Cleaner suction system is specifically designed to work with a dental CAD/CAM milling machine. It is suitable for connection to a single milling machine. It is equipped with a 1 kW motor, operating at 230 V.

The unit has a main sack filter, with a surface area of 7300 cm^2 , and a secondary cartridge filter of 3650 cm^2 . The air is discharged by the means of a $\varnothing 5 \text{ cm}$ pipe directly to the atmosphere, reducing the air temperature and recycling the dust. Suction activation can be manual or automatic, using an interface designed for any milling machine. The Ciclone adaption can be placed next to or on top of the cleaner.



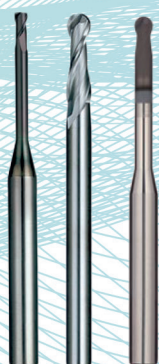
Dimensions

Width: 410 mm (800 mm) Length: 430 mm
Height: 710 mm (1500 mm) Weight: 45 kg

CONSUMABLES

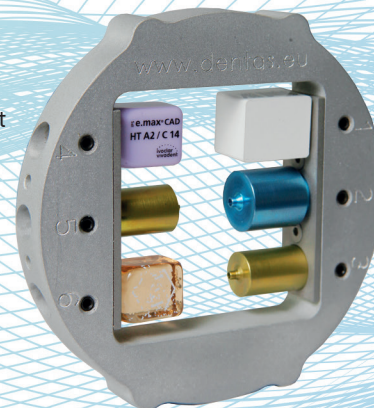
CAD/CAM MILLING CUTTERS

Roto milling cutters are optimal to be applied with the CAD/CAM technology. We offer a complete set of milling cutters, ideal for the whole range of materials, used in dentistry: PMMA, CoCr, titanium and titanium alloys, zirconia, glass ceramics and others. All Arrow Roto milling cutters are distinguished by a special geometry, verified in practice. The multi-ply diamond coating is highly resistant to abrasion and provides life-long use even when milling highly abrasive materials.



UNIVERSAL HOLDER

Universal holder for e-max and prefabricated implant abutments.



Zirconia blanks

With each passing year, zirconia is gaining more and more market share, and in the future, we can expect even bigger expansion in the dental market. Zirconium dioxide is a polymorph material, which means, that in nature the pure zirconium dioxide exists in different crystal forms, depending on the temperature in which the crystal was formed. That's why pure zirconium dioxide is unusable in dentistry. The tetragonal phase transformation takes place at 1173° C. To stabilize the tetragonal phase at room (body) temperature most of the producers, and so do we, use yttrium as a stabilizer.

We produce our blanks exclusively from the powder of the Tosoh company, the world leading producer of zirconium dioxide of the utmost quality.



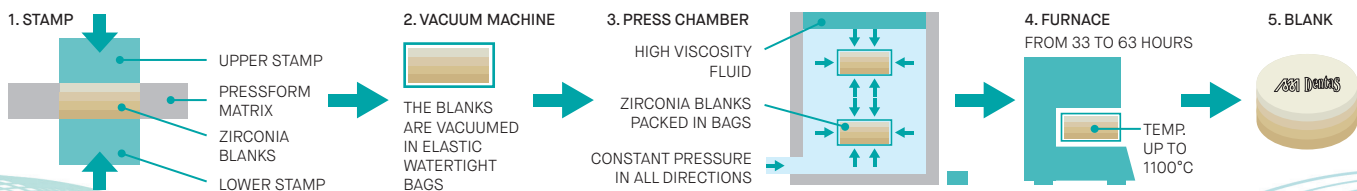
In our production process we only use well proven powder from the world leading producer Tosoh.



**ZIRCONIA ARROW
MULTI-LAYERED AND
HIGH TRANSLUCENT**

Our own production

- sintering at 1450 to 1550° C
- natural colour reproduction
- no chipping
- optimal margin fit



Zirconia Arrow multi-layered

4-6 LAYERS

HT	34%
A1/300	18%
A2/700	18%
A3/900	30%



ZIRCONIA ARROW BLANKS HIGH TRANSLUCENT MULTI-LAYERED Ø98 mm with or without step

ZAML-W203 Light (B 1.5-2)	Ø98x14 mm
ZAML-W205 Light (B 1.5-2)	Ø98x18 mm
ZAML-W206 Light (B 1.5-2)	Ø98x20 mm
ZAML-W203 Medium (A 1.5-2)	Ø98x14 mm
ZAML-W205 Medium (A 1.5-2)	Ø98x18 mm
ZAML-W206 Medium (A 1.5-2)	Ø98x20 mm
ZAML-W203 Dark (A3-3.5)	Ø98x14 mm
ZAML-W205 Dark (A3-3.5)	Ø98x18 mm
ZAML-W206 Dark (A3-3.5)	Ø98x20 mm



CE 0123

Arrow Smile blanks

- with 20% more light transmission!
- high translucent technology for perfect dental aesthetics
- bending strength of 600 MPa, for up to three unit anterior and posterior restorations
- much higher strength than lithium disilicate glass ceramics, higher than 65%!

ZIRCONIA ARROW BLANKS SMILE - SUPER HIGH TRANSLUCENT Ø98mm with or without step

ZATHS-W200 Zirkon Arrow	Ø98x10 mm
ZATHS-W201 Zirkon Arrow	Ø98x12 mm
ZATHS-W203 Zirkon Arrow	Ø98x14 mm
ZATHS-W204 Zirkon Arrow	Ø98x16 mm
ZATHS-W205 Zirkon Arrow	Ø98x18 mm
ZATHS-W206 Zirkon Arrow	Ø98x20 mm
ZATHS-W207 Zirkon Arrow	Ø98x22 mm
ZATHS-W209 Zirkon Arrow	Ø98x24 mm



CE 0123



ZIRCONIA ARROW BLANKS

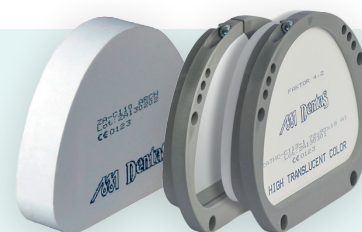
Ø98 mm, with or without step



BASIC	SHADED A1-1, A2-2, A3-3, A3,5-4, B1-6, C1-10	HIGH TRANSLUCENT	HIGH TRANSLUCENT, SHADED in A1, A2, A3, B1, C1 colours Vita®	
ZA-W200	ZAC-W200	ZATH-W200	ZATHC-W200	Ø98x10 mm
ZA-W201	ZAC-W201	ZATH-W201	ZATHC-W201	Ø98x12 mm
ZA-W203	ZAC-W203	ZATH-W203	ZATHC-W203	Ø98x14 mm
ZA-W204	ZAC-W204	ZATH-W204	ZATHC-W204	Ø98x16 mm
ZA-W205	ZAC-W205	ZATH-W205	ZATHC-W205	Ø98x18 mm
ZA-W206	ZAC-W206	ZATH-W206	ZATHC-W206	Ø98x20 mm
ZA-W207	ZAC-W207	ZATH-W207	ZATHC-W207	Ø98x22 mm
ZA-W208	ZAC-W208		ZATHC-W208	Ø98x24 mm
		ZATH-W208		Ø98x25 mm
ZA-W209	ZAC-W209	ZATH-W209	ZATHC-W209	Ø98x26 mm

ZIRCONIA ARROW BLANKS

AMANN GIRRBACH CERAMILL MOTION®*



BASIC	HIGH TRANSLUCENT	HIGH TRANSLUCENT, SHADED A1/C1, A2, A3, B1	
ZA-C 107	ZATH-C 107	ZATHC-C 107	72x90x10 mm
ZA-C 108	ZATH-C 108	ZATHC-C 108	72x90x12 mm
ZA-C 109	ZATH-C 109	ZATHC-C 109	72x90x14 mm
ZA-C 110	ZATH-C 110	ZATHC-C 110	72x90x16 mm
ZA-C 111	ZATH-C 111	ZATHC-C 111	72x90x20 mm
ZA-C 112	ZATH-C 112	ZATHC-C 112	72x90x25 mm

Names under the * are registered trade marks and/or brand names of the producers.

MODEL ARROW BLANKS FOR DENTAL MILLING SYSTEMS

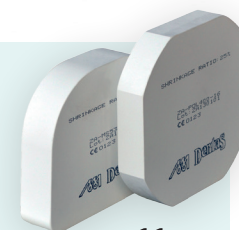
with or without step

TAB 201-12	Ø98x12 mm
TAB 203-14	Ø98x14 mm
TAB 204-16	Ø98x16 mm
TAB 205-18	Ø98x18 mm
TAB 206-20	Ø98x20 mm
TAB 207-22	Ø98x22 mm
TAB 209-26	Ø98x26 mm



ZIRCONIA ARROW BLANKS FOR MANUAL SYSTEMS

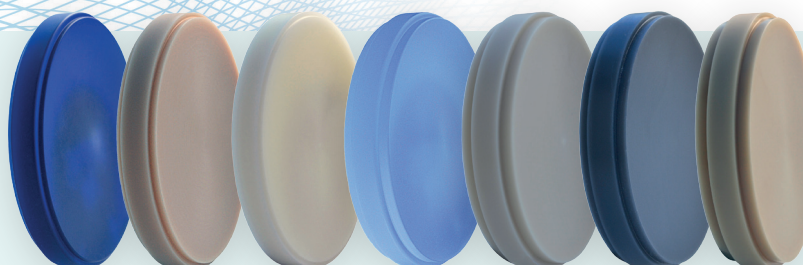
ZA-POL400	Polygonal 98x88x16 mm
ZA-POL401	Polygonal 98x88x18 mm
ZA-POL402	Polygonal 98x88x20 mm
ZA-POL403	Polygonal 98x88x25 mm
ZA-MS530	Zirkon Arrow 93x75x16 mm
ZA-MS531	Zirkon Arrow 93x75x18 mm
ZA-MS532	Zirkon Arrow 93x75x20 mm



MODEL ARROW BLANKS

WAX

different
dimensions



SELECTIVE LASER MELTING

Arrow Metal Printing System

We're proud to present our latest machine, Arrow metal printing, a machine, which prints metal into 3D objects.

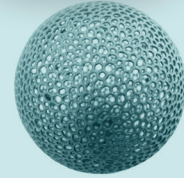
The operation principle is quite simple and easy to understand. A 3D model (of a bridge or crown, for example) is scanned and then prepared by special software into many layers, or slices.

With a low-power built-in laser, the machine melts metal powder into desired 2D shapes. By adding next layer of metal powder and consecutive laser melting into the desired shape, it gradually adds more layers (standard layer thickness is 25 μm) until the whole 3D object is printed.

Our machine is specifically built for producing dental prosthetic restorations, thus the diameter of laser focal point of only 35 μm . Crowns, bridges and removable prosthesis are made of high-quality cobalt-chromium metal powder. It's possible to use gold, copper, and tool-steel powders, so the machine can also be used in the jewellery production and industry in general.

Technical data

- building volume X, Y, Z: 90 mm x 90 mm x 70 mm
- layer thickness from 10 to 50 μm , perfect for dental restorations
- laser type: Yb-fiber laser, 10 to 100 W
- optical system F-theta lens; high-speed scanner
- rated voltage: 230 V / 50 – 60 Hz, 16 A



Dimensions

Width: 605 mm
Height: 880 mm
Length: 620 mm
Weight: 150 kg

Dimensions of the pedestal, with a built-in inert gas reservoir

Width: 605 mm
Height: 710 mm
Length: 620 mm
Weight: 51 kg

The pedestal is available in black or white version.

- rated power 1,0 kW
- inert gas consumption approximately 50 litres per hour
- inert gas connection 6 mm push-in connector at minimum 3 bar pressure



ARROW VIBRO SIEVE

Vibratory sieve

This sieve rounds up our product range and helps to reduce waste since most of the powder (95%) can be recycled.

Maximum mass of sieve stack is 5 kg.

Dimensions

Width: 330 mm; Height: 600 mm;
Length: 480 mm; Weight: 35 kg



ARROW NITROGEN GENERATOR

A simple way of obtaining the protective gas nitrogen. It requires only a constant supply of compressed air and electricity. Easily manageable with only one turn-switch.

Dimensions

Width: 330 mm; Height: 720 mm;
Length: 430 mm; Weight: 40 kg



ARROW PROTECT TERM FURNACE

High-temperature sinter furnace

Speed sinter furnace constructed for sinter metals and thermal stabilization, which is possible because of the use of inert gas. Of course, you can sinter ZrO_2 ceramics (zirconia) as well.



DENTAS d.o.o.

Cesta k Tamu 20
2000 Maribor
Slovenia

+386 2 618 56 20
info@dentas.eu
www.dentas.eu

We reserve the right to change visual appearance and technical properties of our products without further notice.
State: November 2017.