

Easy-to-use, high quality dental metal printers

3D metal printing for dental applications

Manufacture dense, complex dental prostheses with excellent surface quality and short post-processing at high productivity.



COMPLETE SOLUTION

Streamline your workflow with an integrated solution of metal 3D printers, certified material and high-performance dental software. 3D Systems' CoCr Dental powder is certified as medical device in compliance with three local regulations: Europe (CE marking), USA (FDA registered), Canada (Health Canada homologated)

Highly flexible

- Build what you need, when you need

Highly accurate

- Superior surface quality
- Excellent fit

Safe operation

- Gloves and airlock

Highly productive DMP Dental 100:

- 100 units in 4 hours
- 4 partials in 7 hours

ProX® DMP 200 Dental:

- 200 units in 9 hours
- 10 partials in 9.5 hours



DMP Dental 100 and ProX® DMP 200 Dental Printers

Enables to use Direct Metal Printing (DMP) to produce high-quality, metal dental prostheses.



Workflow-optimized software solution

DMP Dental Pro software is a high performance software solution from dental file to production.



Partials Copings, Crowns, Bridges

Certified dental material

LaserForm® CoCr (C) is a certified Nickel-free CoCr alloy for dental use.

Material specification

The powder LaserForm® CoCr(C) is a type 5 (according to ISO 22674) CoCr dental alloy developed for the manufacturing of fixed dental prostheses such as caps, crowns and bridges and removable dental prostheses.

| ELEMENTS | | QUANTITIES |
|------------|------------|------------|
| Cobalt | Co | Balance |
| Chromium | Cr | 29.0% |
| Molybdenum | Mo | 5.50% |
| | Mn, Si, Fe | < 1.00% |
| | Ni | << 0.10% |
| | Pb, Cd, Be | << 0.02% |

| PROPERTIES according to ISO 22674, ISO 9693 | VALUES | |
|--|--------|----------------------------------|
| Yield strength (Rp0.2) | 815 | MPa |
| Elongation (A%) | 10 | % |
| Vickers hardness | 375 | HV 5 |
| Modulus of elasticity | 229 | GPa |
| Density | 8.336 | gcm ⁻³ |
| Corrosion resistance | < 4 | µgcm ⁻² |
| Thermal expansion (25-500°C) | 14.5 | 10 ⁻⁶ K ⁻¹ |
| Tarnish-proof | | |

| POST TREATMENT | VALUES | |
|----------------|--------|-------------|
| Heat treatment | 800°C | 30 min max. |

Manufacturer

Vertex-Dental B.V.
Centurionbaan 190
3769 AV Soesterberg
The Netherlands
Phone +31 88 616 04 40

E-mail info.vertex@3dsystems.com

Website www.vertex-dental.com



FDA
REGISTERED

HEALTH CANADA
HOMOLOGATED

Printer specification



DMP Dental 100

ProX® DMP 200 Dental

| SPECIFICATIONS | | |
|--------------------------|--|---|
| Laser Power Type | 100 W/Fiber laser | 300 W/Fiber laser |
| Laser Wavelength | 1070 nm | |
| Build Volume (X x Y x Z) | 3.94 x 3.94 x 3.15 in (100 x 100 x 80 mm) | 5.51 x 5.51 x 3.94 in (140 x 140 x 100 mm) |
| Layer Thickness | 10 µm - 100 µm | |
| LaserForm® metal alloy | LaserForm® CoCr (C) | |
| Material Deposition | Roler | |
| Repeatability | x=20 µm, y=20 µm, z=20 µm | |
| Minimum Feature Size | x=100 µm, y=100 µm, z=20 µm | |
| Typical Accuracy | ± 0.1-0.2% with ± 50 µm minimum | |

| SPECIFICATIONS | | |
|------------------------------|---|---|
| Dimensions, uncrated (WxDxH) | 48 x 68 x 83 in (121 x 172 x 210 cm) | 48 x 59 x 77 in (120 x 150 x 195 cm) |
| Weight, uncrated | 1300 kg (2870 lbs) | 1500 kg (3300 lbs) |

| FACILITY REQUIREMENTS | | |
|-----------------------------|---------------------------------------|--------------------------------|
| Electrical Requirements | 230 V / 2.7 KVA / single phase | 400 V / 8 KVA / 3 phase |
| Compressed Air Requirements | 6-8 bar | |
| Gas Requirements | Nitrogen, 6-8 bar | |
| Water Cooling | Not required, air cooling included | Chiller included in printer |

| CONTROL SYSTEM AND SOFTWARE | | |
|-----------------------------|-----------------------------|---------------|
| Software Tools | DMP Dental Pro (included) | |
| Input Data File Formats | STL | |
| Control Software | PX Control V3 | PX Control V2 |
| Operating System | Windows 10 | Windows 7 |
| Network Type and Protocol | Ethernet 1 Gbps, RJ-45 Plug | |

| CERTIFICATION | CE marked |
|---------------|-----------|
|---------------|-----------|