# Direct Metal Printers

## Metal Additive Manufacturing with the DMP printer series

**DMP Flex 100**

**ProX® DMP 200**

**ProX® DMP 300**

| SPECIFICATIONS | | | |
|---|---|---|---|
| Laser Power Type | 100 W/Fiber laser | 300 W/Fiber laser | 500 W/Fiber laser[1] |
| Laser Wavelength | 1070 nm | 1070 nm | 1070 nm |
| Build Volume (X x Y x Z)<br>Height inclusive of build plate | 100 x 100 x 90 mm<br>(3.94 x 3.94 x 3.54 in) | 140 x 140 x 115 mm<br>(5.51 x 5.51 x 4.53 in) | 250 x 250 x 330 mm<br>(9.84 x 9.84 x 12.99 in) |
| Layer Thickness | 10µm - 100µm | | |
| | | Preset: 30 | Preset: 40 µm |
| LaserForm® metal alloy choices with developed print parameters: | LaserForm CoCr (B)<br>LaserForm 17-4PH (B)<br>LaserForm 316L (B)<br>LaserForm CoCr (C) | LaserForm CoCr (B)<br>LaserForm 17-4PH (B)<br>LaserForm Maraging Steel (B)<br>LaserForm 316L (B)<br>LaserForm AlSi12 (B) | LaserForm CoCr (B)<br>LaserForm 17-4PH (B)<br>LaserForm Maraging Steel (B)<br>LaserForm AlSi12 (B) |
| Material Deposition | Roller | Roller | Roller |
| 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 | ± 0.1-0.2% with ± 50 µm minimum | ± 0.1-0.2% with ± 50 µm minimum |
| **SPACE REQUIREMENTS** | | | |
| Dimensions, uncrated (WxDxH)[4] | 121 x 172 x 210 cm<br>(48 x 68 x 83 in) | 120 x 150 x 195 cm<br>(48 x 59 x 77 in) | 240 x 220 x 240 cm<br>(95 x 87 x 95 in) |
| Weight, uncrated | 1300 kg (2870 lbs) | Approx. 1500 kg (3300 lbs) | Approx. 5000 kg (11000 lbs) |
| **FACILITY REQUIREMENTS** | | | |
| Electrical Requirements | 230 V / 2.7 KVA / single phase | 400 V / 8 KVA / 3 phase | 400 V / 15 KVA / 3 phase |
| Compressed Air Requirements | 6-8 bar | 6-8 bar | 6-8 bar |
| Gas Requirements | Nitrogen or Argon, 6-8 bar | Nitrogen or Argon, 6-8 bar | Nitrogen or Argon, 6-8 bar |
| Water Cooling | Not required, air cooling included | Chiller included in printer | Chiller included in printer |
| **QUALITY CONTROL** | | | |
| DMP Monitoring | na | na | na |
| DMP Inspection | na | na | na |
| **CONTROL SYSTEM AND SOFTWARE** | | | |
| Software Tools | 3DXpert® all-in-one software solution for metal additive manufacturing - DMP Dental for dental applications | | |
| Control Software | PX Control V3 | PX Control V2 | PX Control V2 |
| Operating System | Windows 7 | Windows 7 | Windows 7 |
| Input Data File Formats | All CAD formats, e.g. IGES, STEP, STL, native read formats incl PMI data, all Mesh formats | | |
| Network Type and Protocol | Ethernet 1 Gbps, RJ-45 Plug | | |
| **ACCESSORIES** | | | |
| Interchangeable Build Modules | na | na | na |
| **POWDER MANAGEMENT** | | | |
| Powder Management | Optional external | Optional external | Automatic |
| Material Loading | Manual | Semiautomatic | Automatic |
| **CERTIFICATION** | CE marked | CE marked, TUV | CE marked, TUV |

[1] Maximum laser power at powder layer is typical 450W for 500W lasers [2] Set up A [3] Set up B [4] Height exclusive of signal tower

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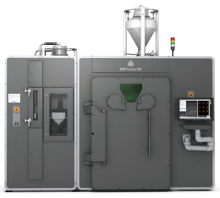
3D SYSTEMS
Additive Manufacturing Solutions

# Direct Metal Printers

## Metal Additive Manufacturing with the DMP printer series

**DMP Flex 350**



**DMP Factory 350**

| SPECIFICATIONS | | | | |
|---|---|---|---|---|
| Laser Power Type | 500 W/Fiber laser[1] | | 500 W/Fiber laser[1] | |
| Laser Wavelength | 1070 nm | | 1070 nm | |
| Build Volume (X x Y x Z)<br>Height inclusive of build plate | 275 x 275 x 420 mm<br>(10.82 x 10.82 x 16.54 in) | | 275 x 275 x 420 mm<br>(10.82 x 10.82 x 16.54 in) | |
| Layer Thickness | Adjustable, minimum 5 µm,<br>typical values: 30, 60, 90 µm | | Adjustable, minimum 5 µm,<br>typical values: 30, 60, 90 µm | |
| LaserForm® metal alloy choices with developed print parameters: | LaserForm Ti Gr1 (A)[2]<br>LaserForm Ti Gr5 (A)[2]<br>LaserForm Ti Gr23 (A)[2]<br>LaserForm AlSi10Mg (A)[3]<br>LaserForm AlSi7Mg0.6 (A)[3]<br>LaserForm Ni625 (A)[3] | LaserForm Ni718 (A)[3]<br>LaserForm 17-4PH (A)[3]<br>LaserForm 316L (A)[3]<br>LaserForm CoCrF75 (A)[3]<br>LaserForm Maraging Steel (A)[3] | LaserForm Ti Gr1 (A)[2]<br>LaserForm Ti Gr5 (A)[2]<br>LaserForm Ti Gr23 (A)[2]<br>LaserForm AlSi10Mg (A)[3]<br>LaserForm AlSi7Mg0.6 (A)[3]<br>LaserForm Ni625 (A)[3] | LaserForm Ni718 (A)[3]<br>LaserForm 17-4PH (A)[3]<br>LaserForm 316L (A)[3]<br>LaserForm CoCrF75 (A)[3]<br>LaserForm Maraging Steel (A)[3] |
| Material Deposition | Soft blade recoater | | Soft blade recoater | |
| Repeatability | x=20 µm, y=20 µm, z=20 µm | | | |
| Minimum Feature Size | 100 µm | | 100 µm | |
| Typical Accuracy | ± 0.1-0.2% with ± 50 µm minimum | | ± 0.1-0.2% with ± 50 µm minimum | |
| **SPACE REQUIREMENTS** | | | | |
| Dimensions, uncrated (WxDxH)[4] | 236 x 240 x 260 cm (93 x 95 x 103 in) | | 358 x 243 x 323 cm (141 x 96 x 127 in) | |
| Weight, uncrated | Approx. 4200 kg (9240 lbs) | | Approx. 4900 kg (10800 lbs) | |
| **FACILITY REQUIREMENTS** | | | | |
| Electrical Requirements | 400 V/15 KVA/50-60Hz/3 phase | | 400 V/20 KVA/50-60Hz/3 phase | |
| Compressed Air Requirements | 6-10 bar | | 6-10 bar | |
| Gas Requirements | Argon, 4-6 bar | | Argon, 4-6 bar | |
| Water Cooling | Chiller supplied with printer | | Chiller supplied with printer | |
| **QUALITY CONTROL** | | | | |
| DMP Monitoring | Optional | | Included | |
| DMP Inspection | Optional | | Optional | |
| **CONTROL SYSTEM AND SOFTWARE** | | | | |
| Software Tools | 3DXpert® all-in-one software solution for metal additive manufacturing | | | |
| Control Software | DMP Software suite | | DMP Software suite | |
| Operating System | Windows 10 IoT Enterprise | | Windows 10 IoT Enterprise | |
| Input Data File Formats | All CAD formats, e.g. IGES, STEP, STL, native read formats incl PMI data, all Mesh formats | | | |
| Network Type and Protocol | Ethernet 1 Gbps, RJ-45 plug | | Ethernet 1 Gbps, RJ-45 plug | |
| **ACCESSORIES** | | | | |
| Interchangeable Build Modules | Optional secondary RPMs (Removable Print Modules) for fast material changeover | | Not applicable, targeted at volume production with one single material | |
| **POWDER MANAGEMENT** | | | | |
| Powder Management | Optional external | | Integrated | |
| Material Loading | Manual | | Manual, Semiautomatic | |
| **CERTIFICATION** | CE, NRTL | | CE, NRTL | |

[1] Maximum laser power at powder layer is typical 450W for 500W lasers [2] Set up A [3] Set up B [4] Height exclusive of signal tower

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