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) Height inclusive of build plate	100 x 100 x 90 mm (3.94 x 3.94 x 3.54 in)	140 x 140 x 115 mm (5.51 x 5.51 x 4.53 in)	250 x 250 x 330 mm (9.84 x 9.84 x 12.99 in)
Layer Thickness	10µm - 100µm	Set: 30	Set: 40 µm
LaserForm® metal alloy choices with developed print parameters:	LaserForm CoCr (B) LaserForm 17-4PH (B) LaserForm 316L (B) LaserForm CoCr (C)	LaserForm CoCr (B) LaserForm 17-4PH (B) LaserForm Maraging Steel (B) LaserForm 316L (B) LaserForm AlSi12 (B)	LaserForm CoCr (B) LaserForm 17-4PH (B) LaserForm Maraging Steel (B) 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 (48 x 68 x 83 in)	120 x 150 x 195 cm (48 x 59 x 77 in)	240 x 220 x 240 cm (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) Height inclusive of build plate	275 x 275 x 420 mm (10.82 x 10.82 x 16.54 in)		275 x 275 x 420 mm (10.82 x 10.82 x 16.54 in)	
Layer Thickness	Adjustable, minimum 5 µm, typical values: 30, 60, 90 µm		Adjustable, minimum 5 µm, typical values: 30, 60, 90 µm	
LaserForm® metal alloy choices with developed print parameters:	LaserForm Ti Gr1 (A)[2] LaserForm Ti Gr5 (A)[2] LaserForm Ti Gr23 (A)[2] LaserForm AlSi10Mg (A)[3] LaserForm AlSi7Mg0.6 (A)[3] LaserForm Ni625 (A)[3]	LaserForm Ni718 (A)[3] LaserForm 17-4PH (A)[3] LaserForm 316L (A)[3] LaserForm CoCrF75 (A)[3] LaserForm Maraging Steel (A)[3]	LaserForm Ti Gr1 (A)[2] LaserForm Ti Gr5 (A)[2] LaserForm Ti Gr23 (A)[2] LaserForm AlSi10Mg (A)[3] LaserForm AlSi7Mg0.6 (A)[3] LaserForm Ni625 (A)[3]	LaserForm Ni718 (A)[3] LaserForm 17-4PH (A)[3] LaserForm 316L (A)[3] LaserForm CoCrF75 (A)[3] 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 (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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