







Forerunner 3D Printing Machine Guide

MACHINE TYPES	 HP Multi-Jet Fusion: Able to rapidly produce 1 - 3000 parts in production nylon material, part sizes up to: 15" x 11.2" x 15"	 SLA: High detail, smooth surface finish, Thermoplastic-like prototype materials, single piece parts up to 20" x 20" x 20"	 PolyJet: Speed, quality, fine feature detail and full color multi-durometer materials, part sizes up to: 19.7" x 15.7" x 7.9"	 FDM: Durable, cost efficient, wide range of colors, strong thermoplastics and single piece parts up to 36" x 24" x 36"	 SLS: Perfect for producing large quantities of small parts in real thermoplastics, part sizes up to 15" x 13" x 18"	 CLIP: High Resolution "injection molded like" properties, for parts up to: 3.2" x 5.7" x 12"
Available Materials	PA-12 (Black – Nylon 12) PA-12 GB (Black – Nylon 12 40% Glass Bead) PA-11 (Black – Nylon 11)	NeXt (White – ABS like) WaterShed XC 11122 (Clear – ABS like) Taurus (Gray – High Temp / Strength) Accura 25 (White – polypropylene like)	Digital ABS (Green, Ivory) DurusWhite High Temperature Material TangoBlack TangoBlackPlus / TangoPlus TangoGray VeroClear VeroWhite	ABS P400 (White, Black, Yellow, Red, Green, Blue, Steel Gray) ABS M30 (Natural, White, Black, Dark Gray, Red, Blue) PC-ABS (Black) PC (White) ULTEM 1010 (Dark Tan) ULTEM 9085 (Tan/Gold, Black)	DuraForm EX (Black – Nylon) Duraform GF (White – Glass Filled Nylon) DuraForm PA (White – Nylon) DuraForm HST (White – like fiber-filled, injection molded material) Windform XT (Black – Composite polyamide based material carbon filled)	UMA (Cyan, Magenta, Yellow, Black, White and Gray – general purpose) RPU (Black – tough and abrasion resistant, stiff) FPU (Black – tough, impact and abrasion resistant with moderate stiffness) EPU (Black – highly elastic, resilient) CE (Amber – high temperature resistance, strength, and stiffness) EPX (Black – High Strength, Accuracy, and Abrasion Resistance) SIL (Gray – Soft Touch, Biocompatible and Tear Resistant)
Max Build Envelope	15" x 11.2" x 15"	20" x 20" x 20"	19.7" x 15.7" x 7.9"	36" x 24" x 36"	15" x 13" x 18"	3.2" x 5.7" x 12"
Min Build Layer Height	.003"	.006", .004"	0.001", .00055"	.007", .010", .013"	.004"	0.003"
Accuracy	+/- .005" for the first 5 inches, +/- .001" inch per inch thereafter.	+/- .005" for the first 5 inches, +/- .001" inch per inch thereafter.	+/- .005" for first 3 inches, +/- .0005" inch per inch thereafter.	+/- .005" for first 5 inches, +/- .0005" inch per inch thereafter (ABS). Same part repeatability (ABS) +/- .001"	+/- .005" for the first 5 inches, +/- .001" inch per inch thereafter.	± 0.3% (with a limit of ± 0.011")
Minimum Printable Detail Size	0.007"	.020"	0.007"	.032", .020"	0.039"	0.023"
Recommended Uses	Additive manufacturing production, end use parts, prototypes, extremely strong / wear resistance parts, high temperature capable parts	Prototypes, trade show models, Investment casting patterns, capable of building very large parts	Prototypes, elastomer / rubber parts, trade show models	Prototypes, trade show models, high temperature capable parts, capable of building very large parts	Low volume additive manufacturing, end use parts, prototypes, extremely strong / wear resistance parts, exotic materials available, high temperature capable parts	Alternative to urethane casting, low volume additive manufacturing, exotic materials available