Malcolm Nicholls Limited utilise the following machines and sizes:

SLA – Stereolithography

Super Size machine – 1 off as follows
Build envelope 800 x 800 x 600mm
Layer thickness 0.1mm as standard. 0.15mm for turbo mode, 0.2mm for super express.
Laser beam sizes Variable spot; large diam 0.7mm, medium spot 0.4, small spot 0.2mm (features smaller than this will not form properly or at all)
Standard Tolerances ±(0.1+0.15%) suited to most components that intend to be injection moulded.
Non-standard components with differing wall thicknesses or thick sections need to be assessed before an idea of tolerances can be given.

Standard Resolution machines – 2 off as follows
Build envelope 508 x 508 x 580mm
Layer thickness 0.1mm as standard. 0.15mm for turbo mode
Laser beam size 0.4mm (features smaller than this will not form properly or at all)
Standard Tolerances ±(0.1+0.075%) suited to most components that intend to be injection moulded.
Non-standard components with differing wall thicknesses or thick sections need to be assessed before an idea of tolerances can be given.

Hi Resolution Machines – 2 off as follows
Build envelope 250 x 250 x 250mm
Layer thickness 0.1mm
Laser beam size 0.25mm (features smaller than this will not form properly or at all)
Standard Tolerances ±(0.05+0.075%) suited to most components that intend to be injection moulded.
Non-standard components with differing wall thicknesses or thick sections need to be assessed before an idea of tolerances can be given.

Ultra-High Resolution Machine
Build envelope 125 x 125 x 250mm
Layer thickness 0.05mm
Laser beam size 0.075mm (features smaller than this will not form properly or at all)
Standard Tolerances ±(0.05+0.05%) suited to most components that intend to be injection moulded.
Non-standard components with differing wall thicknesses or thick sections need to be assessed before an idea of tolerances can be given.

SLS – Selective Laser Sintering

Standard Resolution Machine
Build envelope 380 x 330x 457mm this gets seriously reduced when thermal borders and shrinkage are accounted for.
Practical envelope for Nylon:- 320 x 270 x 400mm
Practical envelope for GBAL:- 330 x 280 x 400mm
Practical envelope for CastForm PS:- 340 x 290 x 420mm
Layer thickness 0.1mm (0.15mm for CastForm PS)
Laser beam size 0.35mm (features smaller than this will not form properly or at all)
Standard Tolerances ±(0.15+0.15%) suited to most components that intend to be injection moulded.
Non-standard components with differing wall thicknesses or thick sections need to be assessed before an idea of tolerances can be given.

FDM – Fused Deposition Modelling

Fortus 450mc
Build Envelope 406 x 355 x 406mm
Layer thicknesses include:
0.127mm
0.178mm
0.254mm
0.330mm
Standard Tolerances Parts are produced within an accuracy of ± .127 mm or ± .0015 mm/mm whichever is greater).
Note: Accuracy is geometry dependent. Achievable accuracy specification derived from statistical data at 95% dimensional yield.

Fortus 900mc

Build Envelope 914.4 x 609.6 x 914.4 mm

Layer thicknesses include:

0.178mm

0.254mm

0.330mm

0.508mm

Standard Tolerances Parts are produced within an accuracy of ± .089 mm or ± .0015 mm/mm whichever is greater).

Note: Accuracy is geometry dependent. Achievable accuracy specification derived from statistical data at 95% dimensional yield.