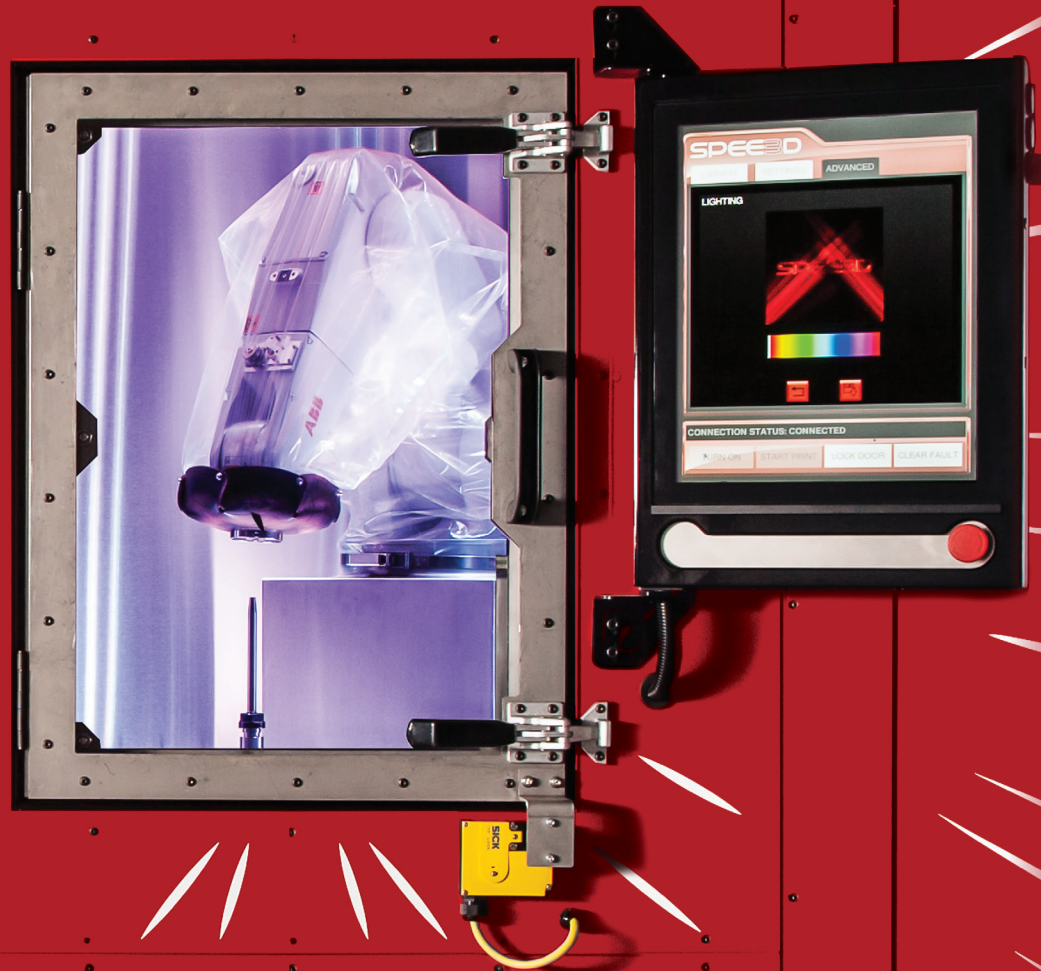


SPEED3D™

FAST AFFORDABLE METAL PARTS



SPEE3D

The world's only high speed metal 3D printers to compete with traditional manufacturing on price.

SPEE3D printers can rapidly and inexpensively manufacture metal parts, suitable for real-world commercial and industrial applications.

This technology is ideally suited for either producing parts currently manufactured by sand or die casting or rapidly printing parts on demand. It does this faster and more efficiently with all the added flexibility offered by 3D printing.

BENEFITS



ULTRA HIGH SPEED

100 to 1000 times faster than traditional 3D printing



STRONG

High performance metal



FLEXIBLE

On-demand part production of 1 to 10,000



EASY

No redesign, just load your file and print



LOW COST

Similar cost to casting using common materials



SAFETY & ECO-FRIENDLY

Safe & healthy environment for your workers



COPPER FLYWHEEL

PRINT TIME: 3.3 MINUTES

WEIGHT: 300 GRAMS

COST: \$12

The same part would take many hours to print and be prohibitively expensive for a single part using traditional metal 3D printing techniques.



COPPER WATER COOLING BLOCK

PRINT TIME: 5.6 MINUTES

WEIGHT: 500 GRAMS

COST: \$20

This copper water cooling block is designed to suit a high performance CPU.



ALUMINIUM 6061 CAMLOCK

PRINT TIME: 24.4 MINUTES

WEIGHT: 660 GRAMS

COST: \$66

This 50mm (2") diameter Type C camlock fitting with a hose tail was printed in Aluminium 6061 for marine environments.



COPPER ROCKET NOZZLE

PRINT TIME: 199 MINUTES

WEIGHT: 17.9KG

COST: \$716

This 265mm x 300mm high, aerospace rocket nozzle liner was printed in pure copper on the WarpSPEE3D. Parts like these are typically machined out of solid wrought copper, a process that takes weeks and costs tens of thousands of dollars. The lead time for producing these parts is also typically around six months. The WarpSPEE3D printed this part in 3 hours and 19 minutes at a cost of just \$716 USD.

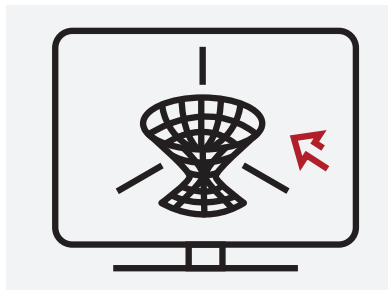
HOW IT WORKS

Rather than using heat to melt metal powders, SPEE3D's patented technology uses supersonic deposition in which a rocket nozzle accelerates metal powder up to three times the speed of sound.

The powder is then deposited onto a substrate that is attached to a six-axis robotic arm. SPEE3D have called this process 'Supersonic 3D Deposition' or 'SP3D'.

In this process the sheer kinetic energy of the particles causes the powders to bind together to form a high density part with normal metallurgical properties.

THE PROCESS



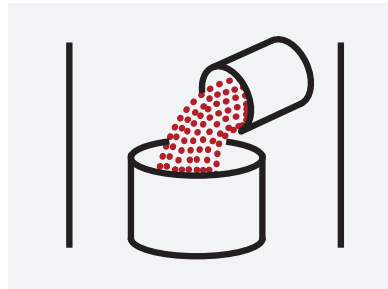
Design in CAD



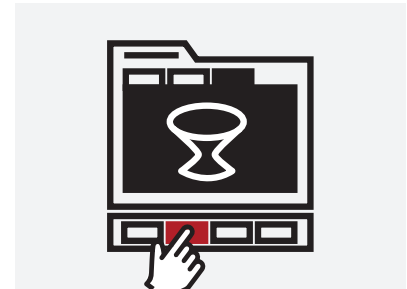
Import intoTwinSPEE3D



Check simulation



Load feedstock



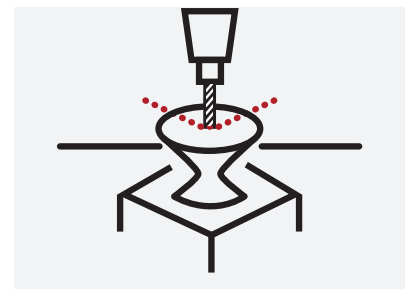
Press print



Remove part



Heat treat



Post process

FEATURES



USEFUL METALS

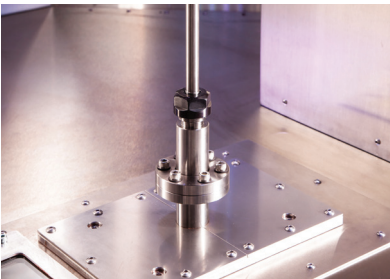
The feedstock for our process is readily available metal powders

- › Aluminium (6061 & pure)
- › Copper (pure)
- › Bronze, Aluminum bronze
- › 316 Stainless steel (coming soon)



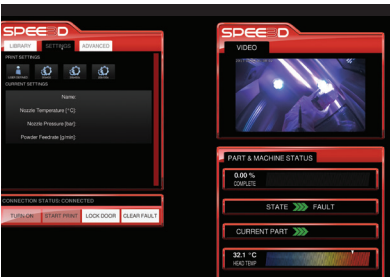
ROBOTIC ARM / PART SUBSTRATE

- › Substrate attached to the robotic arm
- › Moves above the powder spray nozzle
- › Shape forms as powder particles fuse on substrate



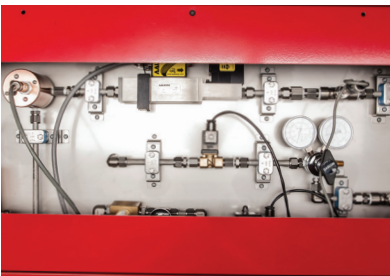
POWDER SPRAY NOZZLE

- › Rocket nozzle propels metal powder particles at supersonic speed onto substrate
- › Fixed to the base of the machine



COMPUTER GAME INSPIRED HMI

- › Intuitive design
- › Ease of operation



COMPRESSED AND HEATED AIR

- › No use of expensive inert gases
- › Process operates using normal compressed air



FINISHING

- › Part removed from machine can be handled immediately
- › Finished or machined with less waste than casting

LIGHTSPEED3D

MANUFACTURE PARTS UP TO Ø350mm x 300mm



LIGHTSPEED3D

- Fully integrated design including enclosed build chamber, powder feeder, electronics and print head.
- High speed robotics
- Touch screen HMI
- Very high build rates – up to 100grams/minute.

Technical Specifications*

PART BUILD INFORMATION

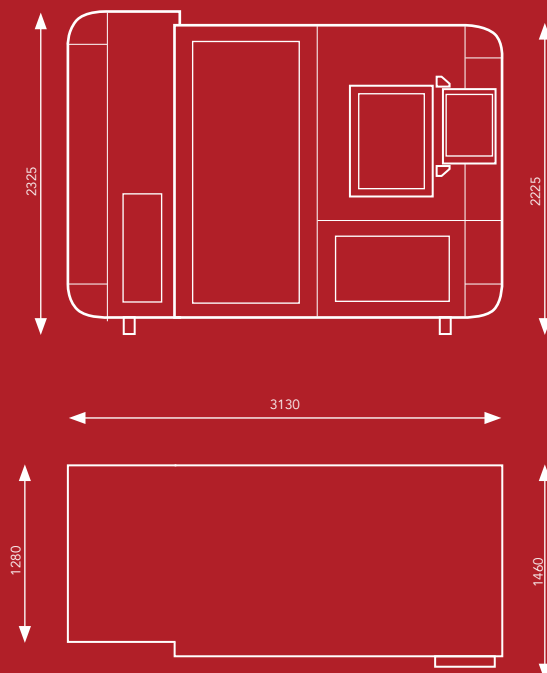
Maximum part size 300 x 300 x 300mm (27L)
Maximum part weight 4kg
Deposition rate 100g/minute (maximum)
Materials Copper, Aluminium
Deposition spot size 6mm

LIGHTSPEED3D

Electrical Power Supply 415V (3 phase), 32A socket
Compressed Air Supply 30Bar, 1.0m³/min
Noise < 85dBA @1m
Machine footprint (mm) 3130 x 1460 x 2325mm
Machine weight Approx 1850kg
External Compressor 30Bar, 15kW, 3 stage reciprocating

TWINSPEED SOFTWARE

CAD input STL format
User Interface Touch Screen
Works with PC running Windows 8 and above



WARPSPEED3D

MANUFACTURE PARTS UP TO Ø1000mm x 700mm



WARPSPEED3D

- Fully integrated design including enclosed build chamber, powder feeder, electronics and print head.
- Touch screen HMI
- High speed robotics
- Very high build rates – up to 100grams/minute.

Technical Specifications*

PART BUILD INFORMATION

Maximum part size Ø 1m x 0.7m (approx)

Maximum part weight 40kg

Materials Copper, Aluminium

PERFORMANCE SPECIFICATIONS

Deposition rate Up to 100g/minute (maximum)

Electrical Power Supply 415V (3 phase), 32A socket

Compressed Air Supply 30Bar, 1.0m³/min

Noise < 85dBA @1m

Machine footprint (mm) 3910 x 2723 x 2742mm (approx)

Machine weight 4200kg (approx)

External Compressor 30Bar, 15kW, 3 stage reciprocating

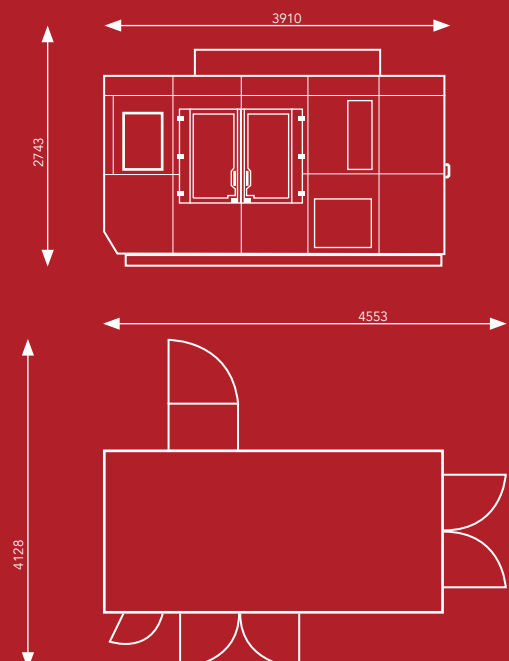
TWINSPEED SOFTWARE

CAD input STL format

User Interface Touch Screen

Works with PC running Windows 8 and above

* Technical specifications subject to change without notice. This datasheet is current as of January 2019



SPEE3D™



TCT AWARDS 2018

**HARDWARE
NON-POLYMER SYSTEM
WINNER**

TECH23.2016
CELEBRATING AUSTRALIAN INNOVATION



BOSCH

Venture Forum
Awards 2015



**RISING STAR
HIGHLY
COMMEDED**

YOUR SPEE3D DISTRIBUTOR

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