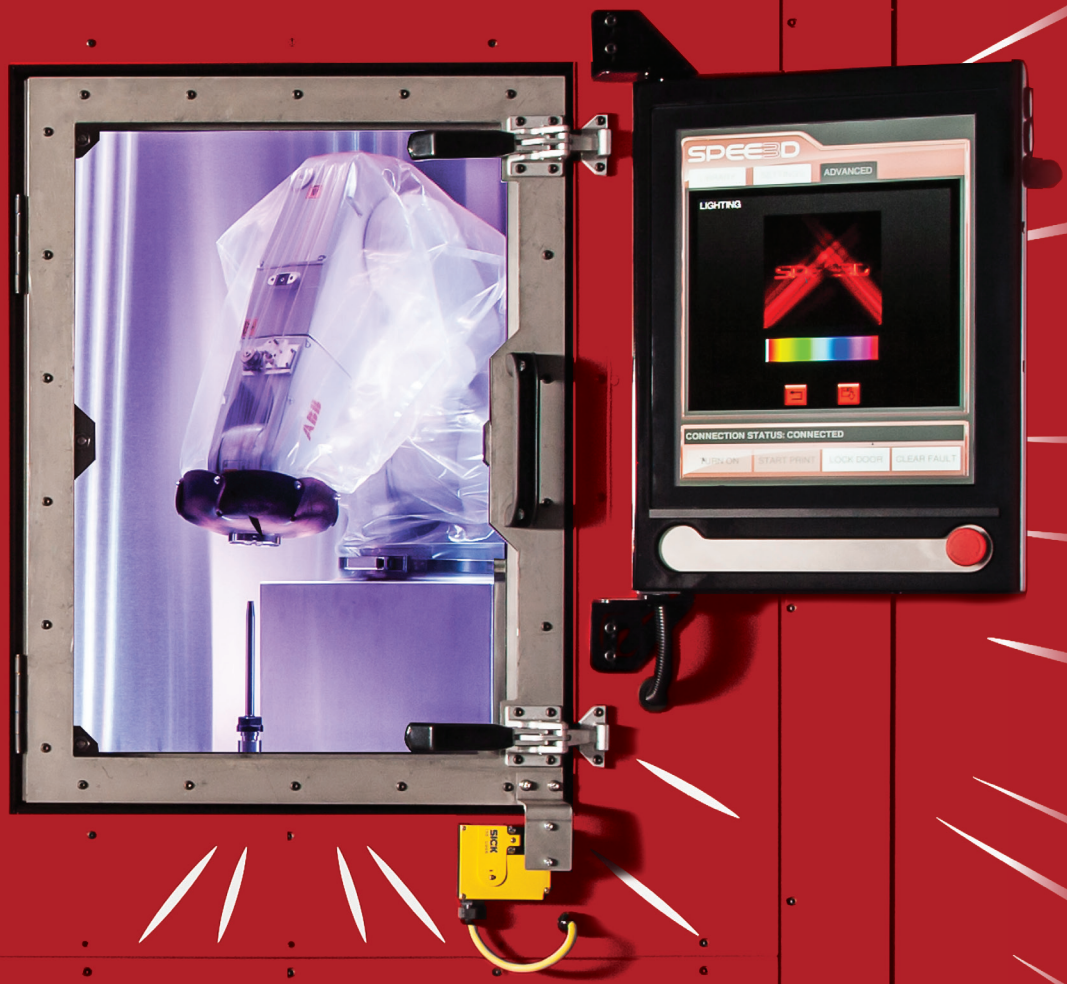
SPEE3D™

THE WORLD'S FASTEST METAL PARTS



High-speed metal 3D printing for the real-world.

SPEE3D

YOUR PARTS, YOUR WAY.

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

Unlike other metal 3D printing technology, 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.

As the first 3D printing technology to displace conventional manufacturing SPEE3D printers have applications including but not limited to; automotive, mining, marine, commercial, HVAC and industrial.

BENEFITS

ULTRA HIGH SPEED

100 to 1000 times faster than traditional 3D printing

STRONG

SPEE3D printers uses SP3D technology to produce high performance metal

FLEXIBLE

With on-demand part numbers you can produce a run of 10,000 parts or a single part with ease

EASY

No redesign or complex modelling required, just load your file and print one part… or many

LOW COST

SPEE3D printers achieve a similar cost to casting and uses common materials (copper and aluminium)

SAFETY & ECO-FRIENDLY

Our process provides a safe & healthy environment for your workers

WE PRINTED THIS COPPER FLYWHEEL IN JUST 3 MINUTES.

This copper flywheel took just 3 minutes to print, at a cost of $6.85. The same part would take many hours to print and be prohibitively expensive for a single part using traditional metal 3D printing techniques.

WE PRINTED THIS COPPER WATER COOLING BLOCK IN JUST 5.6 MINUTES.

This copper water cooling block (to suit a high performance CPU) took just 5.6 minutes to print, at a cost of $10.43. The part is 70mm x 70mm x 12mm and weighs 500g.

WE PRINTED THIS ALUMINUM 6061 CAMLOCK IN JUST 7.8 MINUTES.

This 50mm (2”) diameter Type C camlock fitting with a hose tail weighs 350g and was printed in Aluminum 6061. It took just 7.8 minutes to print, at a cost of $19.27.

WE PRINTED THIS 17.9KG COPPER ROCKET NOZZLE IN JUST 199 MINUTES.

This 265mm x 300mm high, 20kg 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 7 hours and 48 minutes at a cost of just $373.43 USD, making this an aerospace industry game changer.

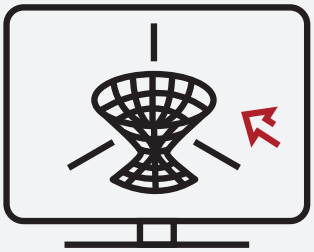
HOW IT WORKS

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 your part in CAD

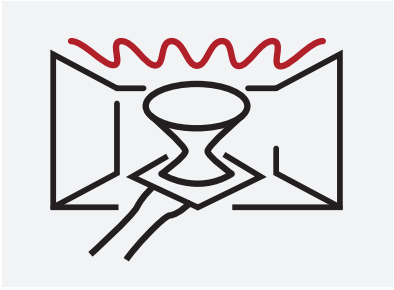
SPEED3D software self programs the print design

Check the print simulation in the TwinSPEED3D software

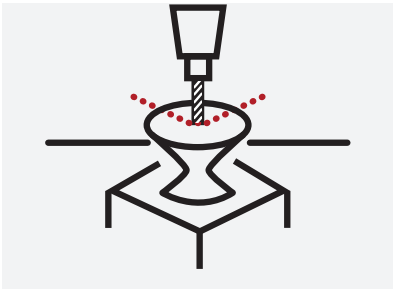
Load feedstock powder in printer

Press print on the HMI touchscreen

MINUTES LATER... Take out your printed part



Heat treat your part for maximum strength



Post process (tumble, machine or polish) if required

FEATURES

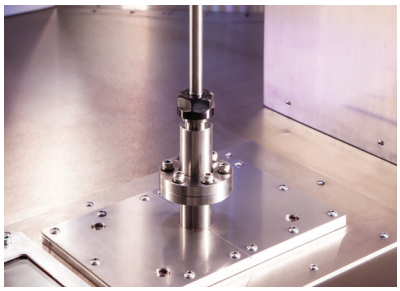
USEFUL METALS

The feedstock for our process is readily available metal powders

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

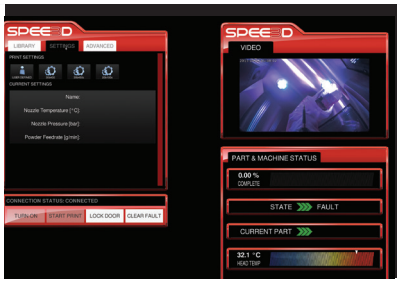
ROBOTIC ARM / PART BED

- Substrate attached to the robotic arm
- Moves above the powder spray nozzle to vary the angle at which the powder is deposited
- Shape forms as powder particles fuse on impact with the bed and each other



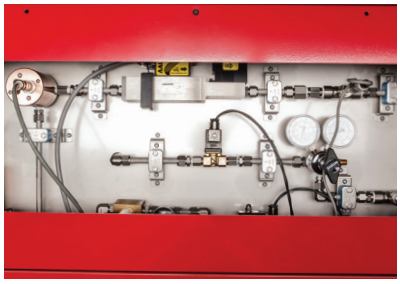
POWDER SPRAY NOZZLE

- Rocket nozzle used to propel metal powder particles at supersonic speed onto substrate
- Fixed to the base of the machine
- Accelerates metal powders up to Mach 3



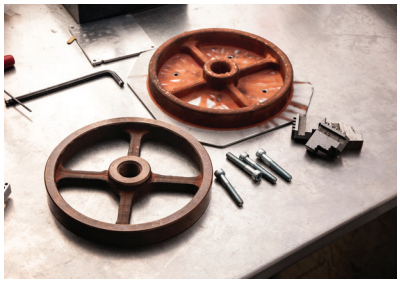
COMPUTER GAME INSPIRED HMI

- Well designed interface that allows functions to be controlled with just a few button presses



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
- Parts removed from bed can be finished or machined, with less waste than casting

LIGHTSPEE3D

MANUFACTURE PARTS UP TO 300x 300x 300mm

LIGHTSPEE3D

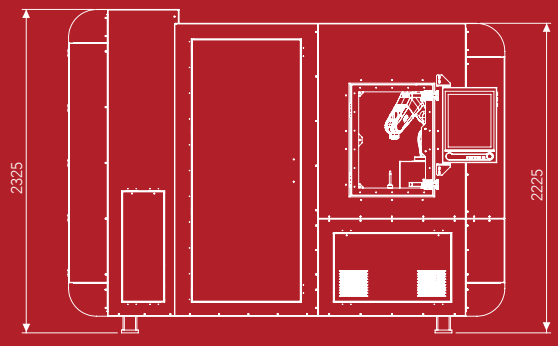
- Fully integrated design including enclosed build chamber, powder feeder, electronics and print head.
- Touch screen HMI
- High speed robotics
- Very high build rates – up to 100grams/minute.

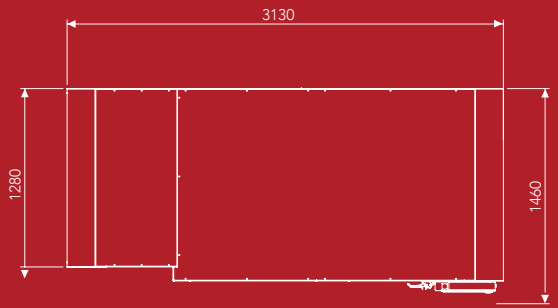
Technical Specifications*

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

LIGHTSPEE3D
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 2500kg
External Compressor 30Bar, 15kW, 3 stage reciprocating

TWINSPEED SOFTWARE
CAD input STL format
User Interface Touch Screen





WARPSPEE3D

MANUFACTURE PARTS UP TO 1000mm Ø x 700mm

WARPSPEE3D

- 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.

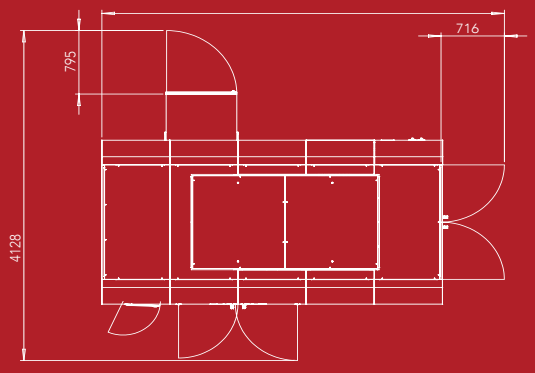
Technical Specifications*

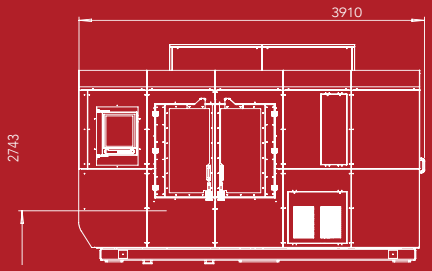
PART BUILD INFORMATION
Maximum part size ø 1m x 0.7m (approx)
Maximum part weight 40kg
Materials Copper, Aluminium

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 3500kg (approx)
External Compressor 30Bar, 15kW, 3 stage reciprocating

TWINSPEED SOFTWARE
CAD input STL format
User Interface Touch Screen

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





SPEE3D™

LightSPEE3D is a
German Design Award Nominee 2018
Winner of the TCT Hardware Non-Polymer Award 2018
Highly commended for the TCT Rising Star Award 2018
Australian Export Award Finalist for Emerging Exporter 2018
Winner of the Manufacturers Monthly Endeavour Award 2018
Finalists for the Victorian Premier's Design Awards 2016
One of the winners of Tech23 2016
Winner of the Prestigious Bosch Venture Award 2015

tct AWARDS

TCT AWARDS 2018
HARDWARE
NON-POLYMER SYSTEM
WINNER

TECH23.2016
CELEBRATING AUSTRALIAN INNOVATION

BOSCH
Venture Forum
Awards 2015

Export Awards 2018
Supported by the NSW GOVERNMENT
eca Export Council of Australia
FINALIST
Emerging Exporter Award

GERMAN DESIGN AWARD NOMINEE 2018

MANUFACTURERS' MONTHLY Endeavour Awards

PREMIER'S DESIGN AWARDS

tct AWARDS
RISING STAR
HIGHLY COMMENDED

YOUR SPEE3D DISTRIBUTOR

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