EXTRUDE HONE®

PRODUCT DATA SHEET

COOLPULSE™
Electrochemical Machining

COOLPULSE™

Enhanced fininishing solution for metal 3D printed components

EXTRUDE HONE technology opens the door to a very economic, fast, controllable, flexible and environmentally friendly process for enhanced surface finishing of metal 3D printed parts.

The machine is available in four versions:

COOLPULSE™ 500 / 1000 / 1500 / 2000

With choosing the COOLPULSE™ 2000 vs. COOLPULSE™ 500 you unlock the power. You will quadruple the machinable part surface area from 300 cm^2 up to 1200 cm^2 which means you can quadruple the output in the best configuration.

FEATURES and BENEFITS

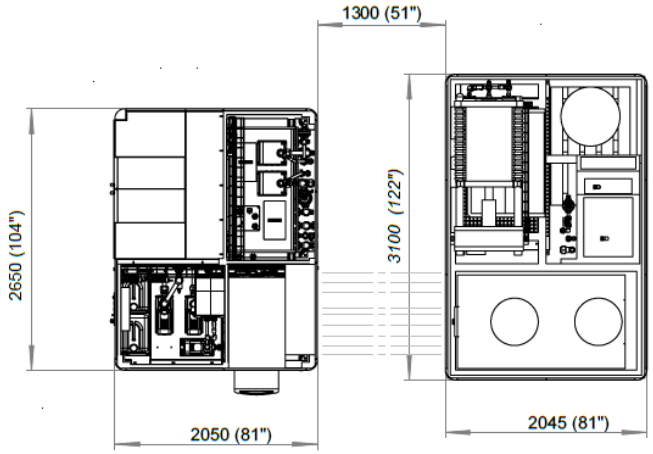
+ **Efficiency in enhanced surface finishing**
  Material removal rate (µm/min) faster than other methodes on the market; e. g. up to 3 times faster than electro polishing
+ **Tooling out of the printer**
  Tooling and fixtures are built at a reasonable cost due to the fact that they are 3D printed
+ **Highest flexibility**
  We provide a complete & optimized cathode and fixture design for your components within two working days
+ **Multiple material master packages**
  Specific parameter files per alloy family
+ **EXTRUDE HONE Connect**
  From CAD to part, remotely: loading of parameters, upgrading material packages, software, and maintenance
+ **Make it easy**
  The all new and simple operating concept limits the data input to 4 simple parameters – parameters that everybody understands

EXTRUDE HONE®

TECHNICAL INFORMATION

COOLPULSE™

MACHINE SPECIFICATIONS



Machine layout shows the max. size of COOLPULSE™ Unit which can differentiate from final layout.

ELECTRICAL CONNECTION

Supply voltage	400 V AC/3 Ph/N/50 Hz
Generator type	RLI; aut. short circut control; DC & Pulse mode
COOLPULSE™ 500	Connected load 35 kVA / sec. current 500 A / voltage 30 V
COOLPULSE™ 1000	Connected load 50 kVA / sec. current 1000 A /voltage 30 V
COOLPULSE™ 1500	Connected load 70 kVA / sec. current 1500 A / voltage 30 V
COOLPULSE™ 2000	Connected load 85 kVA / sec. current 2000 A /voltage 30 V

ELECTROLYTE & FILTRATION

Electrolyte	COOLPULSE™ Electrolyte ES-G 8020
Electrolyte tank	Isolated tank made of PE V = 850 l (225 gal)
Filtration unit	Chamber filter press with 15 filter chambers
Filter capacity	approx. 57 l at filter surface area of 5 m^2

PNEUMATICS

Min. input pressure	6 bar (87 psi) at > 6 m^3/h (212 ft^3/h)
Connection	3/4" thread

Minimum pressure monitoring; maintenance unit

TRANSPORTATION

Machine weight (empty/filled w. electrolyte)	1900 kg (4190 lbs)/ 2800 kg (6175 lbs)

CONTROLS

Programmable Logic Controller (PLC)	Siemens S7-1500
Operator interface	Simatec HMI TPI1200 Comfort Panel 12“

OPTIONS

Tooling and fixture services

Material master packages

Yearly software update of material master packages

Rinsing / preserving reservoir for post-treatment

Fully automatic nickel reduction unit

Country-specific customization

CONSUMABLES

COOLPULSE™ Electrolyte ES-G 8020

Reducing agent (if nickel reduction unit is used)

All systems comply with the applicable EU Machinery Directive governing machine safety and bear the CE mark. They also comply with accident prevention and the VDE and VDI regulations, as well as the requirements concerning electromagnetic compatibility regulations.

CE

NOTE: Specifications and availability are subject to change without notice.

NOTE: Refer to COOLPULSE™ on the webpage for process methods