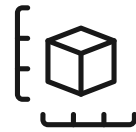


# CMF Debind 50 Debinding Station

The fully automated all-in-one debinding solution for your digital factory



Integrated solvent debinding-, drying- and solvent recycling station. Optimized for CMF binder-component extraction with acetone solvent. Closed Loop System ensures maximum acetone reuse through dirt-tank to clean-tank distillation.



## 50 Liters Chamber

Build Tube Size 515mm (Length) x 342mm (Diameter)



## Acetone Based Debinding

Acetone solvent used for optimal performance with ColdMetalFusion Feedstocks



## Closed Loop Solvent Reuse

Closed Loop System combined with distillation allows acetone reuse at virtually no loss. System needs to be fully filled only once (at commissioning) and topped-up at service intervals.

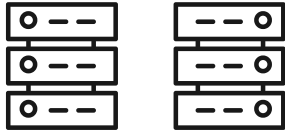


## Laminar Flow

Optimized flow design ensure equal distribution of solvent concentration all over the part



# Distinctive Features



## Powered by Siemens SPS

for process monitoring incl temperature control to heat up and constantly keep Acetone below its boiling point. SPSS ensures consistent outcomes and enables high debinding performance for standalone operation & data recording for quality management



## CMF - material debinding

Integrated PID digital temperature controller and circulation pump with adjustable flow rate. Machine ships with pre-configured profiles developed by Headmade Materials



## Highest Safety with inerted process chamber

Includes nitrogen atmosphere in process chamber, LÖMI Advanced Clean Technology, door safety-locking mechanism, chamber over pressure valve, double walled high quality steel chamber and a fully closed system design. Station is explosion proof according to II 2G Ex h IIA T3 Gb of ATEX 2014/34/EU directive.



## Integrated Tanks For 5 Debinding Cycles

540 liters tank divided in two chambers. Chamber is flooded with approx. 50 liters of fresh acetone, which is pumped into the dirt tank at job completion. Clean tank can be refilled upon depletion by running special distillation cycle - at the end of which the resulting binder-dust can be cleaned out of the chamber with a brush.



## Ultra high wall thickness parts

Advanced process design enables deep infusion of solvent into the part. Users are able to manufacture very large parts with wall thicknesses of up to 30mm.



## Continuous Solvent Circulation

Circulation pump keeps constant acetone flow over parts to ensure homogenous fresh acetone distribution over all part's surface areas. This accelerates the process and reduces risk of crack building within the part during debinding.





# Available Materials

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## For Live Production

### 316L Stainless

high ductility & corrosion resistance

### Ti6Al4V - Grade 5

light, high strength & corrosion resistance  
- requires Argon Option

### 17-4PH Stainless

high mech. properties & wear resistance

### M2 Tool Steel

high hardness & toughness

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## For Application Development & Prototyping (Beta)

### H13 Tool Steel

wear resistance at high temperature

### Ti - Grade 1

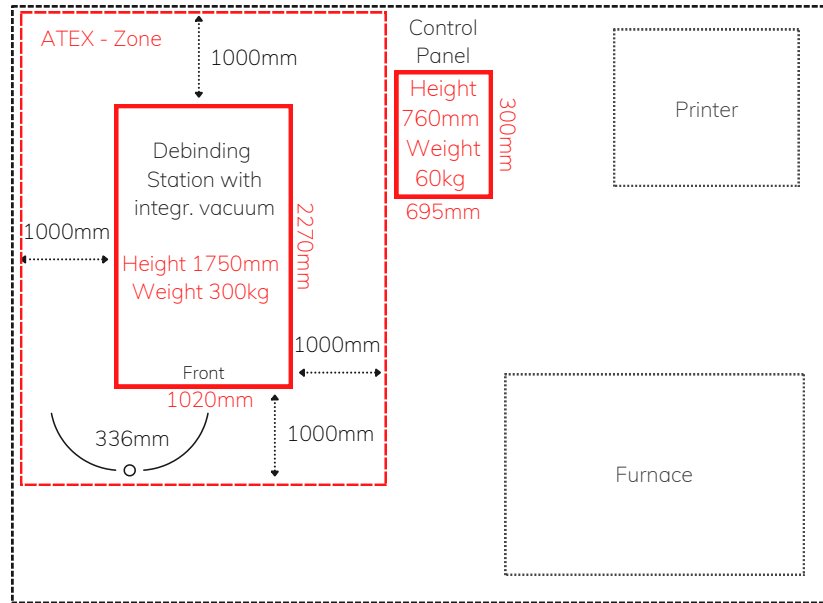
high ductility & max. corrosion resistance  
- requires Argon Option

### Inconel 625

heat & corrosion resistance



# Dimensions & Required Connections\*



\* min. distance to walls 600mm

## Supply connections for power & support systems

⚡	Power	7 kW	❄️	Cooled water	8 - 15 °C 0,7 m³/h flow rate   2-3 bars pressure	
	Voltage	230V / 400V, 3PH/N/PE, 50Hz		🧴	Compressed air supply	with >6 Bar pressure
	Current	3x 20A		🧴	Nitrogen gas supply	with 0.2<0.3 Bar pressure
🛢️	Thermal oil	10 Liters Recommendation: Shell HTO S2	🌬️	Pipe or house for ventilation of tanks	towards exterior of building	
🌬️	Room air extraction	5x the room volume per hour with ATEX certification	🌬️	(optional) Air extraction for hood for	air suction system (door) with ATEX certification	
🌬️			❄️	chilled water	[8°C - 15°C] with [0.1-0.4] m³/h flow rate and 2-3 bars pressure	



# Technical Specifications

Insertion height for perforated tubs (mm)	1220
Batch load volume W x H x D (mm)	225 x 231 x 500
Power usage during debinding process (kWh)	1,0 - 2,0
Power usage during destilation process (kWh)	2,5 - 3,5
Volume (litres)	45
Dimensions: External H x W x D (mm)	1750 x 1020 x 2270
L x D Debindingchamber (mm)	515 x 342Ø
Weight without / with integrated tanks (kg)	300/ 450

