



**For those who
thought that
Z resistance
was unreachable...**

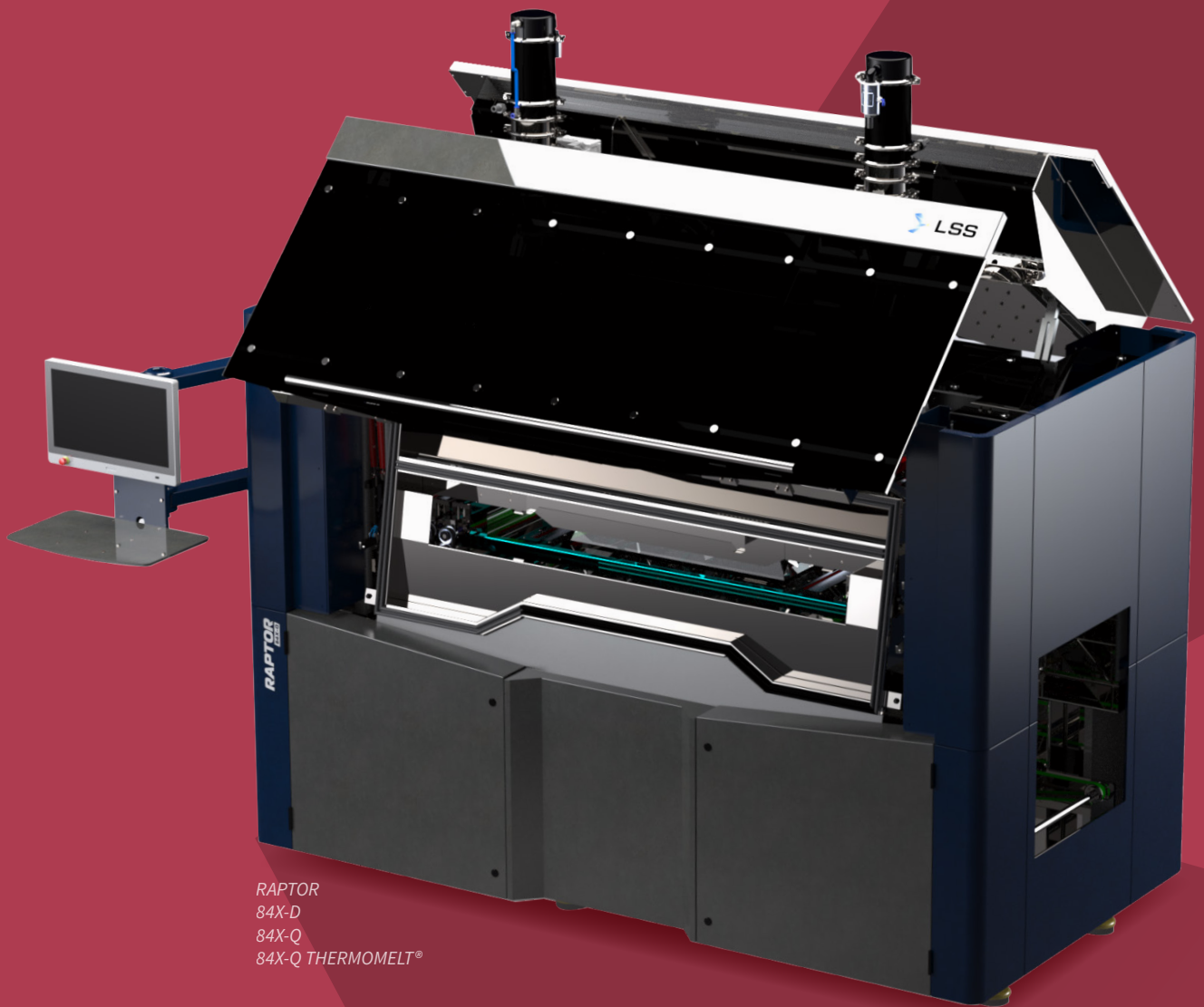


**Z resistance
is finally a reality
in 3D printing!**

RAPTOR

UNIQUE THERMOMELT™
TECHNOLOGY





RAPTOR
84X-D
84X-Q
84X-Q THERMOMELT®

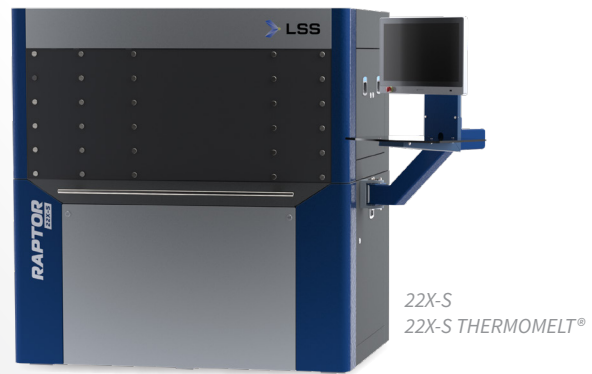
The most modular & flexible 3D printer on the market

- ▶ Two technologies combined into one:
 - > Laser Sintering System
 - > ThermoMelt™
- ▶ Two product ranges available:
 - > **22X-S and 22X-S ThermoMelt™**
 - > **84X-D, 84X-Q and 84X-Q ThermoMelt™**
- ▶ **90% more productive**
 - > the biggest powder bed fusion system
 - > faster due to advanced four scanning system

▶ Designed for the future

Process capability up to 220 °C (280 °C upon request) allowing continuous processing of high performance materials.

- ▶ Designed for standard filled and unfilled materials such as **PA11 & PA12**...
- ▶ Opens new opportunities with high demanding applications using high temperature materials such as **PEKK, PPA, PPS, PEEK**...
- ▶ Productivity increase for specific materials like **TPU**
- ▶ Perfect match with **Automotive & Automation industries** but also with **Aerospace, Oil & Gas, Healthcare, Consumer goods & Electronics markets**



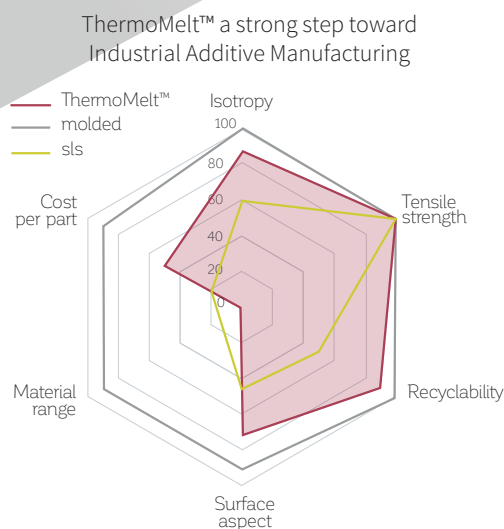
ThermoMelt™ technology reaches the unreachable

- ▶ Enhanced isotropy → **Z resistance performance becomes now a reality** in 3D printing
- ▶ Compatible with MMPS modules → allowing **automated and industrial production quantities**
- ▶ **Excellent accuracy**
- ▶ **Homogeneous surface quality**
- ▶ **Wall-thickness as low as 0.3 mm**

ThermoMelt™ technology, your 'Cost Partner'!

Our ThermoMelt™ machines (84X-Q ThermoMelt™ and 22X-S ThermoMelt™) are operating at lower temperature than SLS, optimizing powder consumption:

- ▶ Less thermal stress on the material allowing for more powder reusability (up to 95%)
 - ▶ Better melting quality
 - ▶ Less maintenance
 - ▶ Less energy consumption
 - ▶ Less post treatment
- **You significantly reduce your costs per part.**



TECHNOLOGY	ThermoMelt™	Selective Laser Sintering (SLS)
PART BED TEMPERATURE	**	***
REFRESH RATE	**	*
LASER POWER FOR MELTING THE MATERIAL	***	*
BUILDING PROGRESS	*	**
DETAIL RESOLUTION	**	/
STIFFNESS	*	/
DENSITY	**	/
SURFACE QUALITY	**	/
DIMENSIONAL ACCURACY	**	*
TENSILE STRENGTH	~ ISOTROPIC	ANISOTROPIC
SUPPORT STRUCTURES	YES	NO

SYSTEM TYPE	84X-D	84X-Q	84X-Q THERMOMELT®*
OUTER DIMENSIONS (L/W/H)	3400 X 2100 X 2950 MM ³		
EFFECTIVE BUILD SIZE (X/Y/Z) **	800 X 400 X 480 MM ³		800 X 400 X 450 MM ³
BUILD CYLINDER DIMENSIONS (L/W/H)	1450 X 605 X 600 MM ³		
LAYER THICKNESS (TYPICAL)	0.1 MM		0.08 MM
VOLUME BUILD RATE***	≤9 L/H	≤15 L/H	≤15 L/H (≤4L/H THERMOMELT®)
BEAM DEFLECTION	2 X 3-AXIS HIGH-PRECISION- BEAM DEFLECTION UNIT	4 X 3-AXIS HIGH-PRECISION- BEAM DEFLECTION UNIT	
SCANNING SPEED	15 M/S	17.5 M/S	
LASER TYPE	2 X 70 WATT CO2	4 X 120 WATT CO2	
POWER REQUIREMENTS	400VAC/ 50HZ / 32KVA /3PH/N/PE	400VAC/ 50HZ / 63KVA /3PH/N/PE	
POWDER FEEDING	LSS-OPTIFEED		
MAXIMUM BUILD AREA TEMPERATURE	220 °C (280 °C upon request)		
HEATING SYSTEM	UNIHEAT ^{EXTREME} MULTI-ZONE HEATING		
TEMPERATURE CONTROL SYSTEM	ATC ^{ADVANCED} PYROMETER, MULTI-SPOT-READING		
PROCESS RESIDUE HANDLING	INTEGRATED CONTINUOUS ATMOSPHERE CLEANING		
OPERATING SYSTEM	WINDOWS 7-64 BIT		
MACHINE CONTROL SOFTWARE	LSS MCS & BUILD PROCESSOR		
PROCESSABLE MATERIALS	PA 6, PA 11, PA 12, TPU AND THEIR FILLED VERSIONS		PA 6, PA 11, PA 12, TPU AND THEIR FILLED VERSIONS AS WELL AS PEKK

*ThermoMelt® is a registered trademark of Airbus S.A.S.

** Effective build size depends on the material used. Part degradation may occur outside the individually recommended build area

*** Volume build rate is related to material and process fill rate (part volume/ cake volume)

SYSTEM TYPE	22X-S	22X-S THERMOMELT®
OUTER DIMENSIONS (L/W/H)	1800 X 1200 X 1980MM ³	
EFFECTIVE BUILD SIZE (X/Y/Z) **	200 X 200 X 320 MM ³	200 X 200 X 290 MM ³
LAYER THICKNESS (TYPICAL)	0.1 MM	0.08 MM
VOLUME BUILD RATE***	≤1.6 L/H	≤1.6 L/H (≤0.5 L/H THERMOMELT®)
BEAM DEFLECTION	3-AXIS HIGH-PRECISION- BEAM DEFLECTION UNIT	
SCANNING SPEED	15 M/S	
LASER TYPE	70 WATT CO2	
POWER REQUIREMENTS	400VAC/ 50HZ / 32KVA /3PH/N/PE	
POWDER FEEDING	BOTTOM FEED	
MAXIMUM BUILD AREA TEMPERATURE	220 °C (280 °C upon request)	
HEATING SYSTEM	UNIHEAT ^{EXTREME} MULTI-ZONE HEATING	
TEMPERATURE CONTROL SYSTEM	ATC ^{ADVANCED} PYROMETER, MULTI-SPOT-READING	
OPERATING SYSTEM	WINDOWS 7-64 BIT	
MACHINE CONTROL SOFTWARE	LSS MCS & BUILD PROCESSOR	
PROCESSABLE MATERIALS	PA 6, PA 11, PA 12, TPU AND THEIR FILLED VERSIONS	PA 6, PA 11, PA 12, TPU, PPS AND THEIR FILLED VERSIONS AS WELL AS PEKK

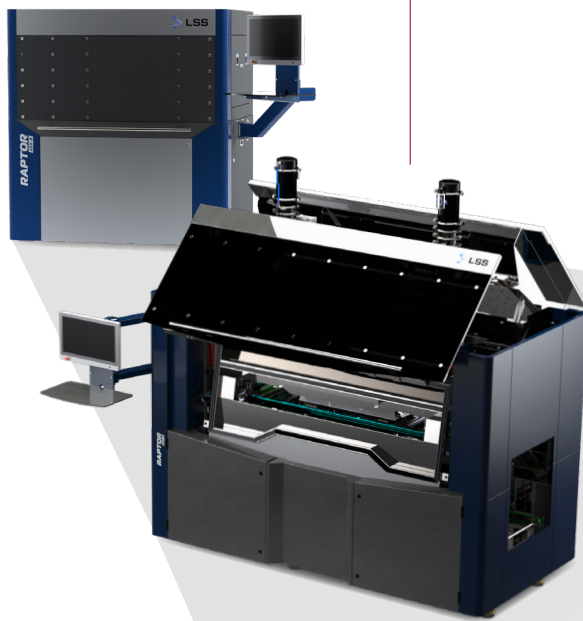
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22X-S
22X-S THERMOMELT®

84X-D
84X-Q
84X-Q THERMOMELT®



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The impossible, the only way.