High-speed precision 3D-printers for jewellery production

JEWELLERY

rapidshape

10 years ago we launched our very first printer. Ever since we have been contributing to extraordinary moments in other people's lives: When exchanging wedding rings in front of the altar, when the perfect fitted hearing aid let people discover an emotional sound experience, when smiling bright to both sides after leaving the dentist and with every step you take. These are the moments we are proud of and which push us forward.

Today, additive manufacturing (AM) is more dynamic than ever before. AM allows us to realize completely new shapes, to think further and to discover unknown paths. AM makes the impossible become reality so that we are able to think outside the boxes of conventional production processes. The part production of the future will become faster, more flexible and less expensive - but quality will remain the same. Our ideas and solutions are made to provide this future of production to you already today!

But what about the upcoming 10 years? Pandemic has taught us many things. One of the lessons learned is that planning the future is necessary, but every scenario should be designed adaptable. But it is also clear that the world will keep on turning and we all keep turning with it. It is our ideas and decisions that will keep us pushing forward.

Andreas Schultheiss CEO

Andreas Geitner CTO

Optimize Your Production!

We are Rapid Shape

From a start-up to an international respected company

A company from the south of Germany. 10 years ago, we decided to make our own 3D-printers. Thus, a virtue was made of necessity. Because the offers on the market were simply not satisfactory for our parent company Schultheiss GmbH, whose field of activity is heating and casting technology for processing precious metals. So, if nothing fits, then something suitable is made. That's how our first printers came about. Today, we employ over 175 people at seven locations in over five countries around the world.

Our claim

Not only to meet our customers' expectations, but to exceed them, that has always been our aspiration. We are constantly developing our products, as well as ourselves, to provide the best solutions for our customers. Thus, our product portfolio has grown enormously since the foundation in 2011.

Always a solution

3D-printing is supposed to save you time - not take it away. This is exactly where our patented solutions come in. For example, our printers have Automatic Separation units to save you the task of separating the printed parts from the build platform and start the next print job independently. In addition, the Automatic Refill unit ensures that there is always a sufficiently high level of print material in the reservoir. Manual refilling is no longer necessary. No idle time, no cleaning time.*

The quality

Before leaving our production site, every single 3D-printer must pass several strict quality control processes. One of the most important checks - the printing itself. Every printer has to execute validation print jobs which will be measured afterwards. That's how we ensure that every printer meets our high quality standards and will be sent to you fully functional.

Andreas Laboratory

Simone Customer Service

Chi Distribution

Robin Product Management

Placide Technical Service

* More extras and a complete overview of our solutions can be found starting on page 14.

All over the World

Heimsheim **Germany**
Raleigh, NC **USA**
Tokyo **Japan**
Suzhou **China**

Curitiba **Brazil**

Headquarter Heimsheim

Why we are so fast

Why Vat Polymerization Technology? Why DLP?

There is a huge amount of different 3D-printing technologies available. We made conscious decisions about choosing Digital Light Processing (DLP) for a simple reason: Only by using DLP we can ensure high repeatability over a long period of time when printing high-resolution parts.

DLP is one technical way of vat photopolymerization. Hereby liquid resins are used, the so called photopolymere in this context, which are being cured photochemical by light. As using light as tool, a very precise production is possible. Simultaneously, only lowest energy and resource consumptions are necessary to get from the resin as raw material to the finished printed part. Thereby the highest material turnover rate per time and thus the highest productivity in comparison to other 3D-printing technologies can be achieved. Due to precise manufacturing and smart ideas being developed in-house, a high rate of resource-efficiency is also an effect of this technology.

All named parameters in combination allow us to produce complex geometries in a cost-efficient, sustainable way and is therefore our technology of choice by conviction.

Speed and precision with Force Feedback Technology

We were often asked for the reason being that fast - Alongside many causes, especially our patented Force Feedback Technology is an important reason. When separating the very first layer of the part from the reservoir bottom, normally undefinied forces are at work. To prevent the part from being damaged, the separation process has to be proceeded carefully and slowly.

To face this critical point we have a solution called Force Feedback Technology. By measuring the forces involved directly on the part, we ensure that our 3D-printer can increase his processing speed up to the maximum - but always in a safe way! In addition, support structures can be constructed noticeable thinner what simplifies rework after printing. The results of Force Feedback in sum are faster printing times while having a constant high quality level.

- First-class image quality
- Detailed print results
- Durable and proven components
- Wide range of materials
- Cost-effective materials
- Easy handling
- Fast results
- Low entry costs

Intelligent Connectivity

Intelligent Connectivity

The Intelligent Connectivity feature enables communication between your printer and RS wash and RS cure post-processing devices. Once a connection is established between these devices, the printer can forward completed print jobs to the finishing devices for further processing. There, the cleaning and exposure process is carried out on the basis of the transmitted data. That means: Lower costs and higher process reliability.

Post-processing devices

Our customers can rely on certified processes between material and system manufacturers. Not only 3D printing, but also cleaning and post exposure are done automatically with validated parameters. The risk of incorrect processing is excluded. And it's automated!

Our Solutions for increased Productivity

Automatic Separation Module (ASM)

Increase your productivity by seamlessly printing adjacent jobs, without interruption. The Automatic Separation unit allows you to produce multiple print jobs in a self-determined sequence one after the other (Job Queues) without having to remove the build platform from the printer and detach the print job.* Less downtime, more productivity.

Automatic Resin refill

Is there enough material left in the reservoir? With the Automatic Refill unit, this question becomes superfluous. Modern sensor technology checks the filling level in the reservoir with split-second precision and automatically starts filling material via a connected material bottle if the filling level should reach a critical minimum mark.*

* Not available for every type of machine.

S20+

Professional 3D-printers for easy and fast printing

Bring your design to life: Our compact and practical S20+ easily converts your jewellery design into printed parts.

Maximum precision combined with maximum reliability: With the S20+, you can achieve maximum quality and repeatability in your printed parts. Quick printing results make the S20+ an indispensable tool when carrying out rapid prototyping.

Wash and cure your parts directly after printing with the RS wash and RS cure post-processing units for an optimal result.

RS wash
RS cure

Performance parameters	S20+ regular	S20+ large
Building area	101 x 57 mm	133 x 75 mm
Native Pixel	+/– 26 µm	34 µm
Max. part height	115 mm	115 mm
Light source	405 nm UV LED	405 nm UV LED
Resolution	Full HD 1920 x 1080 px	Full HD 1920 x 1080 px
Dimension (W × H × D)	335 × 541 × 349 mm	335 × 541 × 349 mm
Connections	WLAN, TCP/IP, USB	WLAN, TCP/IP, USB
Control	7“ Touchscreen	7“ Touchscreen
Recommended for	Regular rings and College rings	Larger pieces such as bangles and statues with large surfaces

Regular or large version

User-friendly

Open system

Integrated Force Feedback Technology

Certified Auto Calibration Sensor (ACCS)

Resolution of 1920 x 1080 px (Full HD)

S30+

The powerhouses for casting, design offices and jewellery manufacturers

Higher efficiency for professional print results - the S30+. The simple operation and intuitive user interface enable fast, high-volume printing results in consistent quality. The optional Automatic Separation Module (ASM, patent pending) allows parts to be separated without manual operation. In addition, the temperature-controlled resin reservoir ensures process stability and part quality even more at maximum speed.

Wash and cure your parts directly after printing with the RS wash and RS cure post-processing units for an optimal result.

RS wash
RS cure

Performance parameters	S30+ regular	S30+ large
Building area	101 x 57 mm	133 x 75 mm
Native Pixel	+/– 26 µm	34 µm
Max. part height	155 mm (with ASM 70 mm)	155 mm (with ASM 70 mm)
Light source	405 nm UV LED	405 nm UV LED
Temperature	Regulated up to 35°C	Regulated up to 35°C
Resolution	Full HD 1920 x 1080 px	Full HD 1920 x 1080 px
Dimension (W × H × D)	480 x 690 x 410 mm	480 x 690 x 410 mm
Connections	WLAN, TCP/IP, USB	WLAN, TCP/IP, USB
Control	10“ Touchscreen	10“ Touchscreen
Recommended for	Regular rings and College rings	Larger pieces such as bangles and statues with large surfaces

Automatic Separation Module (ASM)

User-friendly

Open system

Integrated Force Feedback Technology

Controlled regulation of resin temperature up to 35° C (= 95° F)

Certified Auto Calibration Sensor (ACCS)

Automatic Separation Module (ASM)

Resolution of 1920 x 1080 px (Full HD)

S50+

The workhorse for professional manufacturers

The S50+ is our new workhorse for printing any indication. With a print range three times (!) larger than the S30+ and the optional, patented separation unit, you can catapult the number of pieces per day many times over. Your printed parts are automatically separated from the build platform after printing is finished and collected in a big collection basket. The next print job is then started immediately, without manual intervention. An Automated Refill unit ensures that there is always a sufficient level of printing material in the reservoir.

RS wash
RS cure

Clean and cure your parts directly after printing with the RS wash and RS cure post-processing units for an optimal and validated end result.

Performance parameters	S50+
Building area	231 × 130 mm
Native pixel	+/– 30 µm
Max. part height	300 mm (with ASM: 100 mm)
Light source	405 nm LED
Resolution	4K
Dimension (W × H × D)	600 × 1660 × 570 mm
Connections	WLAN, Ethernet, USB
Control	10“ LCD-Display, touch-screen

Automatic Separation Module (ASM)

Automatic Resin Refill unit

Open system

Automatic Separation Module (ASM)

Resin temperature control

Automatic door opener

Material identification (RFID)

Certified auto calibration (ACCS)

Integrated Force Feedback

Remote Access available

RS wash

For the perfect finish of your components – Automated and environmentally friendly cleaning

The automatic cleaning system RS wash is impressive thanks to its user-friendliness and a process-controlled connection to your printer - for professional and validated finishing of your printed parts.

Thanks to the automatic choice of the right cleaning programme and cleaning medium, the printed pieces are not only cleaned reliably and easily but also in an environmentally-friendly manner through a 2-stage principle with pre-cleaning and final cleaning. We have applied for a patent for this intelligent system.

Performance parameters	RS wash
Volume	130 x 75 x 60 mm
Cleaning time	approx 6–8 minutes (depending on material)
Cleaning medium	Isopropanol, ethanol
Connections	WLAN/LAN
Dimension (W × H × D)	230 x 270 x 450 mm

Wireless connectivity to printer

Clean process, no handling of sticky resins

Reduced smell

Effective computer-controlled cleaning agent use

Exchangeable liquid container (plug-in system)

Stackable with RS cure

RS cure

For the perfect finish of your components: 360° curing at the touch of a button

The RS cure automatic exposure system cures your printed parts homogeneously from all sides thanks to powerful LEDs. The integrated vacuum technology enables excellent curing of the materials. Thus, the materials can be processed validated by many material manufacturers.

The process-controlled connection to your printer ensures that the correct program is always automatically selected and that the mechanical properties and biocompatibility of the end product are achieved. The pre-settings are tested and validated in close cooperation with the material partners to ensure process reliability.

Performance parameters	RS cure
Volume	130 x 75 x 60 mm
Curing time	approx 6–10 minutes (depending on material)
Connections	WLAN/LAN
Dimension (W × H × D)	230 x 270 x 380 mm
Version	with vacuum

Wireless connectivity to printer

Validated process

Compatibel with various material suppliers

Works with vacuum

360° illumination in one go

Certified Auto Calibration Sensor (ACCS)

Stackable with RS wash

S90+ standalone

The workhorse for high-performance 3D-printing

A true industrial printer for 24/7 production under 100 percent load. Suitable for both filigree and large jewellery designs.

The patented Force Feedback Technology ensures a very high production rate with minimal production costs per part. Without compromising on quality. Modular, high-performance sub-systems, including dual-circuit cooling with heat exchanger, ensure optimum operation.

RS wash
RS cure

Wash and cure your parts directly after printing with the RS wash and RS cure post-processing units for an optimal result.

Performance parameters	S90+ standalone
Building area	232 × 137 mm
Native Pixel	+/- 31,5 µm
Max. part height	125 mm
Light source	405 nm, ultra high power UV LED
Resolution	4K
Dimension (W × H × D)	443 x 1615 x 625 mm
Connections	TCP/IP, USB
Control	10“ LCD-Display, Touchscreen

For continuous use

Open system

Lowest unit price per part

Integrated Force Feedback Technology

Certified Auto Calibration Sensor (ACCS)

Remote access

S90+ cabinet

Perfect workflow at maximum speed with consistent quality

Amazing results in a production line - the 3D-printer as a single unit or for a fully-automated production line of your 3D-printed parts.

The S90+ is a high-performance unit that does not compromise on quality. The Automatic Separator Unit (ASM) is patent pending. It collects several print jobs in an integrated catch basket. This means that constant attention is not required. The S90+ can work around the clock with breaks. This increased productivity with take your company to the next level!

RS wash
RS cure

Wash and cure your parts directly after printing with the RS wash and RS cure post-processing units for an optimal result.

Performance parameters	S90+ cabinet
Building area	232 ×137 mm
Native Pixel	+/– 31,5 µm
Max. part height	80 mm
Light source	405 nm, ultra high power UV LED
Resolution	4K
Dimension (W × H × D)	650 x 1615 x 1080 mm
Connections	TCP/IP, USB
Control	10“ Touchscreen

Open system

24/7 For continuous use

Automatic Resin Refill unit

Integrated Force Feedback Technology

Automatic Separation Module (ASM)

Certified Auto Calibration Sensor (ACCS)

Remote access

Begin with an idea – end with the perfect piece of jewellery

Double power

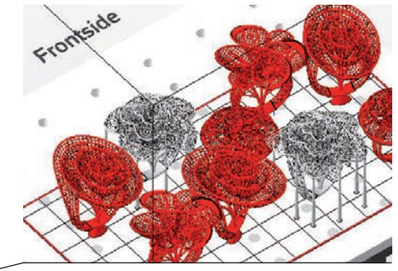
rapidshape

schultheiss

Be creative! Design your jewellery part easily with almost any CAD system. The open STL- and SLC-interface makes it possible.

Do it! Send your file comfortably with network, WiFi or USB flash drive to the printer and finish the print job quickly, thanks to the patented technology.

Double power! When it comes to the casting process, our partner Schultheiss will take care of the entire production – together with you.



Prepare your print job with Autodesk Nefabb®. With only few clicks you get automatic support proposals, various automatic baseplates, 3D-nesting and more.

S30+
Fast, high-volume print results with consistent quality

RF 602
Reliable and long living Rotary Burnout furnace

VPC pure
Easy handling and perfect casting results

Always there for You

Our service team

If you have problems with the technology, we won't let you down! Our technical service team is spread out internationally across 5 service hubs and will get any downtime up and running again. Whether remotely from the service workshop or directly at your site, we will find a way. You can reach our technical service team by phone, email, and WhatsApp, or you can use our online booking system and book an appointment of your choice from the comfort of your home.

Our Experience is Your Value

No one is born a master

Extensive training in the use of our printers will help you to perfectly match the print results to your needs. Afterwards, you'll receive a training certificate and be ready to get started with your printer.

Get first-hand tips and tricks – at our headquarters in Heimsheim or at your location

Knowledge is Power

We like to share

Get access to our knowledge, bundled in our Rapid Shape Knowledge Center! You can dial directly into the Knowledge Center with each product. When you scan the QR code on your device with your smartphone, you will be redirected to the mobile view of the Knowledge Center.* There you can access informative brochures, technical documentation as well as numerous tutorials and downloads. If you prefer to browse our Knowledge Center from the comfort of your PC, we can send you your individual access data by email.

*Internet connection necessary

Showroom at the Headquarter

Heimsheim, Germany

For best Results

Rapid Shape and the leading material manufacturers combine their strengths to provide complete flexibility and unrestricted availability. In this way, we support a jointly validated workflow throughout. New material parameters, which are precisely tailored to our products, are created daily in close collaboration and on the highest level, giving you the very best end result.

Validated materials are available to you in our materials library, each with a tested and approved set of printing parameters. You'll receive regular material updates for your materials library so that you're always up to date and have the largest selection available.

One thing always remains the same: you have the choice of what material you'd like to work with. You can easily create and manage your own sets of parameters. *

Walk Your Way

Unsere Workflow-Partner

AUTODESK® NETFABB®

INNOVATED WITH TNO

NOKTAMODEL

We'll take care of everything for you, except one thing:

With the latest version of our Netfabb CAM software, the parts orientation and positioning on the build platform, the addition of necessary support structures and the final creation of the print data are automatically taken care of for you. What's left? Press "Start".

* Validations of materials from other partners are currently pending and will soon be available in our library.

We'll be by Your Side on Your Journey

We are proud and grateful for the trust of over 4.000 satisfied customers worldwide. This is the best proof of quality and service. Many have accompanied us since our company was founded in 2011 and know how passionate we are about developing high-quality 3D-printing machines. Our success is based on this passion and on the comprehensive know-how of our engineers and all our employees.

We will be happy to advise you individually
about your requirements.

Rapid Shape GmbH
Römerstr. 21
71296 Heimsheim
Germany

+49 7033 309878-0

info@rapidshape.de
rapidshape.de

„Breaking new ground and growing your business is always exciting. Growth requires making wise decisions, having a lot of courage and using reliable partners to support you."

Andreas Schultheiss
Founder and CEO,
Rapid Shape

RS // 2022 // RS-S+// EN-01

rapidshape

Rapid Shape GmbH
Römerstrasse 21
71296 Heimsheim
Germany

+49 7033 309878-0
info@rapidshape.de

rapidshape.de

rapidshape.de