WÜRTH
ADDITIVE GROUP

DISCOVER YOUR

WÜRTH

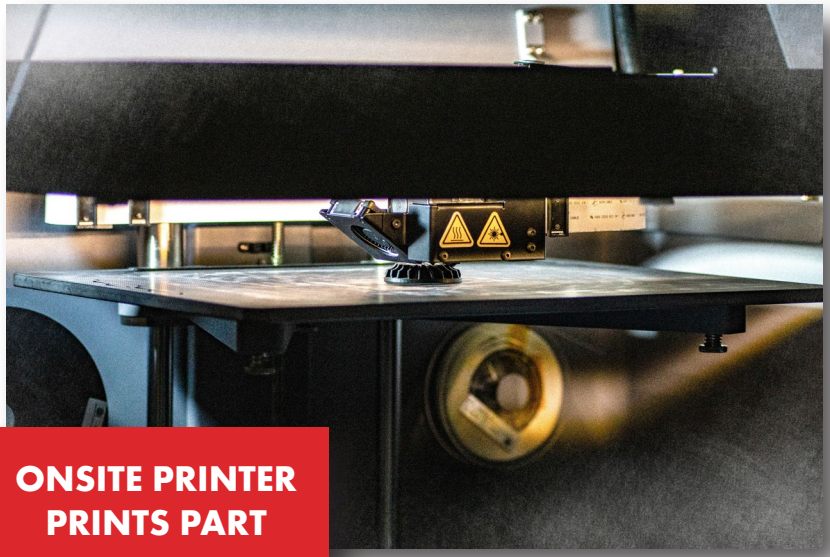
DIGITAL INVENTORY SOLUTIONS

REDUCE DOWNTIME WITH 3D PRINTED PRODUCTION TOOLS & PARTS,
SEAMLESSLY INTEGRATED WITH YOUR INVENTORY SYSTEM

DIGITAL INVENTORY MANAGEMENT

Keep an inventory of digital part files and print parts on-demand, any time.

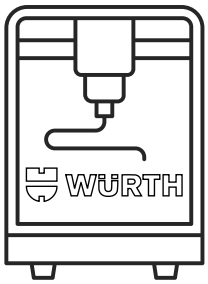
EMPTY BIN TRIGGERS CPS 3D PRINT ORDER



ONSITE PRINTER PRINTS PART

BIN IS RESTOCKED

DIGITAL INDUSTRIAL SOLUTIONS DESIGNED FOR:



ENGINEERS

- "Metal on-demand" capabilities expand the scope of problem-solving on your production floor
- Wide range of metal and polymer materials allow you to design for strength, stress, and impact
- Quickly prototype new ideas at a low cost to provide the best solution
- Software that allows an engineering team to have the same standardized parts library nationwide or around the globe

LINE SUPERVISORS

- Digital Kanban of replacement parts/tools/fixtures keep the line running with minimal downtime or cost
- Increase speed, efficiency, or ergonomics in assembly with custom tools
- Cut down on standing inventory space by keeping a digital library of slow running components

PURCHASERS

- 3D drawings, prototypes, and recommendations on potential cost-saving opportunities
- Prospective pricing based on forecasting information to help you project costs
- Take ideas from prototype, to pilot build, to full production–faster than the competition
- Accelerates and supports a SKU's life cycle

COMPANY MANAGEMENT

- Connect multiple facilities with a standardized process
- Digital parts library curation instantly standardizing your parts catalog across sites
- New tools or components easily launched at all facilities, streamlining logistics and ensuring the right parts are at all locations
- Würth VMI and 3D programs give a worldwide platform to cut waste in your supply chain

STRATEGIC VENDOR PORTFOLIO

Markforged

Markforged is the creator of The Digital Forge, the intuitive Additive Manufacturing platform for modern manufacturers—bringing the power and speed of agile software development to industrial manufacturing. Composed of hardware, software, and materials working seamlessly on a unified platform, it's purpose-built to integrate into your existing manufacturing ecosystem and eliminate the barriers between design and functional part. Digital Forge adopters reap immediate benefits through massive time and money savings on parts. Through increased adoption, the platform can drive competitive advantages by making your entire operation more agile and efficient.

covestro

Covestro is among the world's leading polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative, sustainable solutions for products used in many areas of daily life. We develop sustainable solutions to the greatest challenges of our age: climate change, resource depletion, urban expansion, population growth and the resulting increase in awareness of environmental issues. Covestro aims to meet this demand with long-lasting, light, environmentally friendly and cost-effective materials, which in many cases are suitable replacements for conventional materials such as steel and glass. We do so by focusing on innovation and sustainability and by following our objective: "To make the world a brighter place".

Baker Hughes

Baker Hughes Additive Manufacturing Services: A complete AM value chain including commercial ecosystem for on-demand parts and services. Our Additive Manufacturing (AM) service leverages the engineering expertise and resources of Baker Hughes to vastly expand beyond what's possible for the design and manufacturing of materials, company interaction, and local industry development. Applying AM technology enables customers to not only create more efficient and durable replacement parts, but also connect to an ecosystem that enables the industrialization and production of AM, drastically cutting operational costs and manufacturing lead times.

ARBURG

ARBURG has over 65 years of experience in manufacturing systems for plastics processing, specializing in molding, turnkey systems, and additive manufacturing. ARBURG's additive technology takes the open material printing platform to a new level by utilizing thermoplastic pellets to print single or multi-material components. Companies can print parts for functional prototyping to production applications in the thermoplastic materials of their choice. Powerful software allows users to change part densities and customize print jobs. ARBURG Additive: Real Parts, Real Materials.

AM solutions

AM Solutions - 3D post processing technology, a brand of the Rösler Group, offers equipment, process technologies, and consumables tailored for automated 3D post processing. Be it for single piece manufacturing or volume production. Whether your focus is on unpacking, removal of powder and support structures, surface homogenization and smoothing, polishing, or the application of a color dye—with our broad know-how in additive manufacturing and decades of experience in surface preparation and surface finishing, we can offer you a perfect solution from a single source, irrespective of the material used and printing method.

Markforged

Markforged is changing the pace of invention with the Digital Forge, an intuitive additive manufacturing platform powering engineers, designers, and manufacturing professionals all over the world. The Digital Forge platform seamlessly combines best-in-class machines, software, and both metal and composite materials to empower engineers and designers to go from a design to a functional part more efficiently.

Founded in 2013 and based in Massachusetts, Markforged has about 250 employees globally, with $137 million in both strategic and venture capital. Markforged was recently recognized by Forbes in the Next Billion-Dollar Startups list, and listed as the #2 fastest-growing hardware company in the U.S. in the 2019 Deloitte Fast 500.

THE DIGITAL FORGE

The Digital Forge is the intuitive Additive Manufacturing platform for modern manufacturers—bringing the power and speed of agile software development to industrial manufacturing. Composed of hardware, software, and materials working seamlessly on a unified platform, it's purpose-built to integrate into your existing manufacturing ecosystem and eliminate the barriers between design and functional part.

Digital Forge adopters reap immediate benefits through significant time and cost savings on parts. Through increased adoption, the platform can drive competitive advantages by making your entire operation more agile and efficient.

3D PRINTERS

Markforged offers a complete line of 3D printers all designed around one goal—putting functional parts in your hands, now. Our machines combine high build quality, intuitive user experience, and broad platform connectivity. Featuring unibody aluminum frames and precision mechanical components, Markforged printers produce reliable, repeatable results. Better yet, the 3D printers continuously improve in performance over time, as Markforged engineers regularly update hardware through the cloud to add new features.

A simple user interface makes them easy to use and maintain. Every machine connects to the Digital Forge platform through our Eiger software. With Markforged 3D printers, fabricating a functional part—whether it's metal, continuous fiber, or composite—is easier than sending an email.

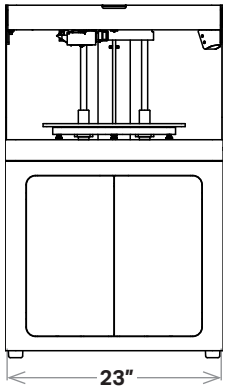
PRODUCT SPECIFICATIONS

X3 (Gen 2)

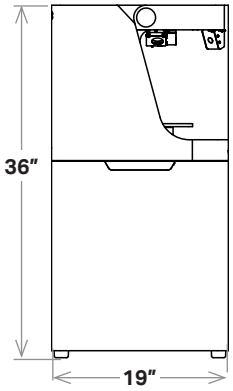
The X3 prints strictly engineering-grade plastic parts. It leverages the incredible material qualities of Onyx—twice the strength and stiffness of standard printing plastics—with an advanced sensor suite to deliver unparalleled reliability. Parts meet tight tolerances with beautiful surface finish and are perfect for production line equipment.

Printer Properties	**Process**	Fused filament fabrication
	Build Volume	330 x 270 x 200 mm (13 x 10.6 x 7.9 in)
	Weight	46 kg (102 lbs)
	Machine Footprint	584 x 483 x 914 mm (23 x 19 x 36 in)
	Print Bed	Kinematic coupling — flat to within 80 µm
	Laser	Bed leveling, active print calibration
	Extrusion System	Second-generation extruder, out-of-plastic detection
	Power	100–240 VAC, 150 W (2 A peak)
	RF Module	Operating Band 2.4 GHz Wi-Fi Standards 802.11 b/g/n
Materials	**Plastics Available**	Onyx, Onyx FR, Onyx ESD
	Fibers Available	None
	Tensile Strength	52 MPa (1.7x ABS) *
	Tensile Stiffness	4.2 GPa (1.9x ABS) *
Part Properties	**Layer Height**	100 µm default, 50 µm minimum, 200 µm maximum
	Infill	Closed cell infill: multiple geometries available
Software	**Supplied Software**	Eiger Cloud (Other options available at cost)
	Security	Two-factor authentication, org admin access, single sign-on

FRONT VIEW



SIDE VIEW



* Onyx ESD data. **Note:** All specifications are approximate and subject to change without notice.

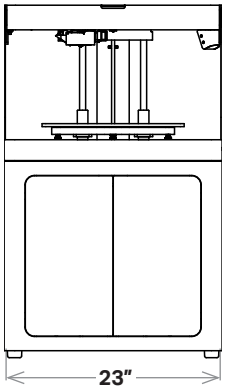
PRODUCT SPECIFICATIONS

X5 (Gen 2)

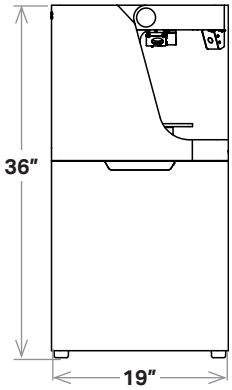
The X5 utilizes fiberglass-reinforced thermoplastic to create parts 10x as strong as standard printing plastics. Our laser-assisted, durably built large format machine reliably produces high-strength parts at an affordable price point in any environment.

Printer Properties	**Process**	Fused filament fabrication, Continuous Filament Fabrication
	Build Volume	330 x 270 x 200 mm (13 x 10.6 x 7.9 in)
	Weight	48 kg (106 lbs)
	Machine Footprint	584 x 483 x 914 mm (23 x 19 x 36 in)
	Print Bed	Kinematic coupling — flat to within 80 µm
	Laser	Bed leveling, active print calibration
	Extrusion System	Second-generation extruder, out-of-plastic and out-of-fiber detection
	Power	100–240 VAC, 150 W (2 A peak)
	RF Module	Operating Band 2.4 GHz Wi-Fi Standards 802.11 b/g/n
Materials	**Plastics Available**	Onyx, Onyx FR, Onyx ESD
	Fibers Available	Fiberglass
	Tensile Strength	590 MPa (19.0x ABS, 1.9x 6061-T6 Aluminum) *
	Tensile Modulus	21 GPa (9.4x ABS, 0.3x 6061-T6 Aluminum) *
Part Properties	**Layer Height**	100 µm default, 50 µm minimum, 200 µm maximum
	Infill	Closed cell infill: multiple geometries available
Software	**Supplied Software**	Eiger Cloud (Other options available at cost)
	Security	Two-factor authentication, org admin access, single sign-on

FRONT VIEW



SIDE VIEW



* Continuous fiberglass data. **Note:** All specifications are approximate and subject to change without notice.

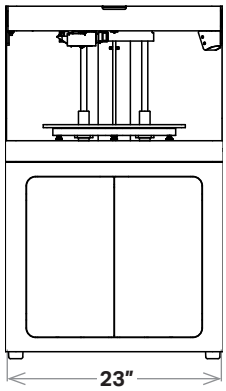
PRODUCT SPECIFICATIONS

X7 (Gen 2)

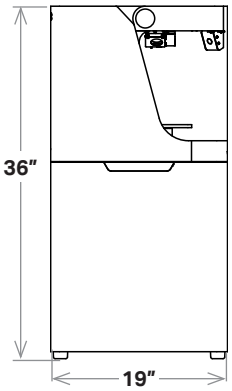
The X7 prints industrial-grade manufacturing jigs, jaws, tools, fixtures, and end-use parts. Designed from the ground up to survive the production floor environment and capable of printing parts stronger than machined aluminum for a fraction of the cost, the X7 delivers unparalleled surface finish, build size, and reliability. Accelerate part production with Turbo Print, our fastest print mode, and verify dimensional accuracy with Blacksmith adaptive manufacturing technology — only available on the X7.

Printer Properties	**Process**	Fused Filament Fabrication, Continuous Filament Fabrication
	Build Volume	330 x 270 x 200 mm (13 x 10.6 x 7.9 in)
	Weight	48 kg (106 lbs)
	Machine Footprint	584 x 483 x 914 mm (23 x 19 x 36 in)
	Print Bed	Kinematic coupling — flat to within 80 µm
	Laser	In-process inspection, active print calibration, bed leveling
	Extrusion System	Second-generation extruder, out-of-plastic and out-of-fiber detection
	Power	100–240 VAC, 150 W (2 A peak)
	RF Module	Operating Band 2.4 GHz Wi-Fi Standards 802.11 b/g/n
Materials	**Plastics Available**	Onyx, Onyx FR, Onyx ESD, Nylon White
	Fibers Available	Carbon fiber, fiberglass, Kevlar®, HSHT fiberglass
	Tensile Strength	800 MPa (25.8x ABS, 2.6x 6061-T6 Aluminum) *
	Tensile Modulus	60 GPa (26.9x ABS, 0.87x 6061-T6 Aluminum) *
Part Properties	**Layer Height**	100 µm default, 50 µm minimum, 250 µm maximum
	Infill	Closed cell infill: multiple geometries available
Software	**Eiger Cloud**	Slicer, part / build management (other options available at cost)
	Security	Two-factor authentication, org admin access, single sign-on
	Blacksmith	Adaptive manufacturing platform (additional purchase required)

FRONT VIEW



SIDE VIEW



* Continuous carbon fiber data. **Note:** All specifications are approximate and subject to change without notice.

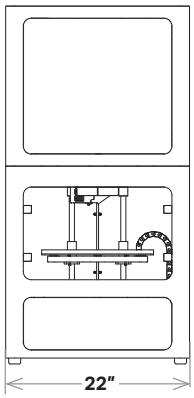
PRODUCT SPECIFICATIONS

Metal X

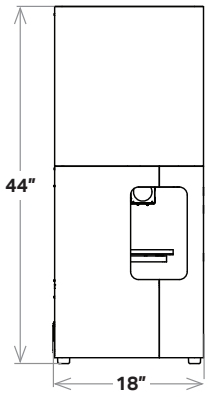
The Metal X is a revolutionary 3D printer that prints metal powder bound in a plastic matrix to eliminate safety risks associated with traditional metal 3D printing methods while enabling new features like close-cell infill for reduced part weight and cost. It's up to 10x less expensive than alternative metal additive manufacturing technologies — and up to 100x less than traditional fabrication technologies like machining or casting. Affordable, reliable, and easy to use, the Metal X print system gives you everything you need to go from design to fully functional metal parts faster than ever before.

Printer Properties	**Process**	Metal fused filament fabrication
	Build Volume	300 x 220 x 180 mm (11.8 x 8.7 x 7.1 in)
	Machine Size	575 x 467 x 1,120 mm (22.7 x 18.4 x 44.1 in), 75 kg (160 lbs)
	Print Chamber	Heated
	Print Bed	Heated, vacuum-sealed print sheet, auto bed leveling
	Print System	Two nozzles — Metal material and release material
	Power Requirements	100–120 / 200-240 VAC (12A / 6A), IEC 60320 type C20
	RF Module	Operating Band 2.4 GHz Wi-Fi Standards 802.11 b/g/n
Materials	**Metal Material**	Stainless steel (17-4 PH), Tool steel (H13, A2, D2), Inconel 625, Copper
	Release Material	Ceramic (consumed at 1:10 ratio to metal spools, on average)
	Media (Spools)	Filament fed, bound powder
Part Properties	**Max Part Size**	250 x 183 x 150 mm (9.8 x 7.2 x 5.9 in), 10kg
	Supports	Metal material with ceramic release layer
	Layer Height	50µm and 125µm post-sinter
Software	**Supplied Software**	Eiger Cloud (Other options available at cost)
	Security	Two-factor authentication, org admin access, single sign-on

FRONT VIEW



SIDE VIEW



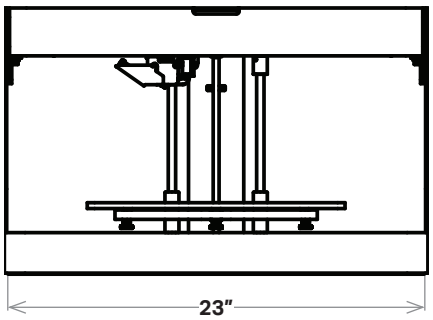
PRODUCT SPECIFICATIONS

Mark Two (Gen 2)

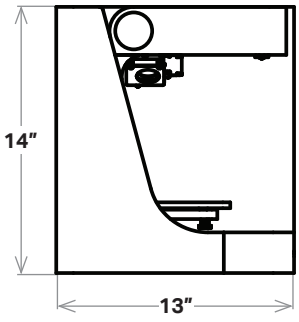
Replace machined aluminum tooling—jigs, jaws, and fixtures—with stronger parts for a fraction of the price. The Mark Two combines our unique continuous carbon fiber reinforcement with workhorse reliability for versatile parts with 26x the strength of ABS, ready same-day for use straight off the printer.

Printer Properties	**Process**	Fused filament fabrication, Continuous Filament Fabrication
	Build Volume	320 x 132 x 154 mm (12.6 x 5.2 x 6 in)
	Weight	16 kg (35 lbs)
	Machine Footprint	584 x 330 x 355 mm (23 x 13 x 14 in)
	Print Bed	Kinematic coupling — flat to within 160 µm
	Extrusion System	Second-generation extruder, out-of-plastic detection
	Power	100–240 VAC, 150 W (2 A peak)
	RF Module	Operating Band 2.4 GHz Wi-Fi Standards 802.11 b/g/n
Materials	**Plastics Available**	Onyx, Nylon White
	Fibers Available	Carbon fiber, fiberglass, Kevlar®, HSHT fiberglass
	Tensile Strength	800 MPa (25.8x ABS, 2.6x 6061-T6 Aluminum) *
	Tensile Modulus	60 GPa (26.9x ABS, 0.87x 6061-T6 Aluminum) *
Part Properties	**Layer Height**	100 µm default, 200 µm maximum
	Infill	Closed cell infill: multiple geometries available
Software	**Supplied Software**	Eiger Cloud (Other options available at cost)
	Security	Two-factor authentication, org admin access, single sign-on

FRONT VIEW



SIDE VIEW



* Continuous carbon fiber data. **Note:** All specifications are approximate and subject to change without notice.

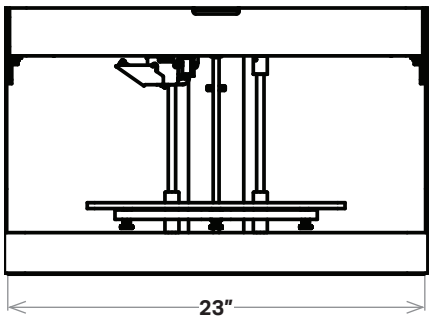
PRODUCT SPECIFICATIONS

Onyx One (Gen 2)

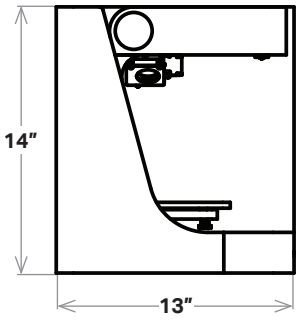
Built on the same platform as our award-winning Mark Two, the Onyx One is designed from the ground up for quality and reliability in a form factor that fits on your desktop. Onyx parts are twice as strong as conventional printing plastics.

Printer Properties	**Process**	Fused filament fabrication
	Build Volume	320 x 132 x 154 mm (12.6 x 5.2 x 6 in)
	Weight	15 kg (34 lbs)
	Machine Footprint	584 x 330 x 355 mm (23 x 13 x 14 in)
	Print Bed	Kinematic coupling — flat to within 160 µm
	Extrusion System	Second-generation extruder, out-of-plastic detection
	Power	100–240 VAC, 150 W (2 A peak)
	RF Module	Operating Band 2.4 GHz Wi-Fi Standards 802.11 b/g/n
Materials	**Plastics Available**	Onyx
	Fibers Available	None
	Tensile Strength	37 MPa (1.25x ABS) *
	Tensile Modulus	2.4 GPa (1.1x ABS) *
Part Properties	**Layer Height**	100 µm default, 200 µm maximum
	Infill	Closed cell infill: multiple geometries available
Software	**Supplied Software**	Eiger Cloud (Other options available at cost)
	Security	Two-factor authentication, org admin access, single sign-on

FRONT VIEW



SIDE VIEW



* Onyx data. **Note:** All specifications are approximate and subject to change without notice.

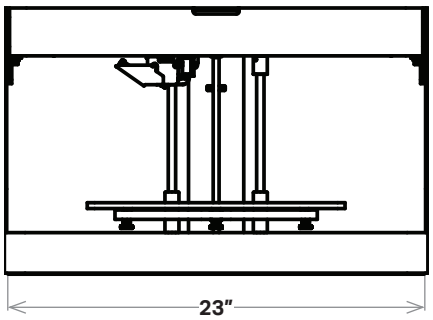
PRODUCT SPECIFICATIONS

Onyx Pro (Gen 2)

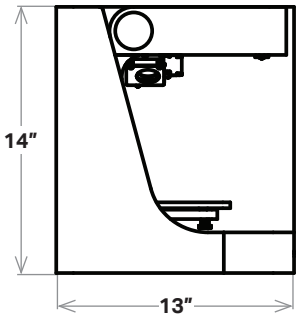
The Onyx Pro features our unique continuous fiber reinforcement at an affordable price. Built on a durable chassis with precision components, the Onyx Pro prints fiberglass-reinforced thermoplastic parts that are 10x as strong as traditional printing plastics.

Printer Properties	**Process**	Fused filament fabrication, Continuous Filament Fabrication
	Build Volume	320 x 132 x 154 mm (12.6 x 5.2 x 6 in)
	Weight	16 kg (35 lbs)
	Machine Footprint	584 x 330 x 355 mm (23 x 13 x 14 in)
	Print Bed	Kinematic coupling — flat to within 160 µm
	Extrusion System	Second-generation extruder, out-of-plastic detection
	Power	100–240 VAC, 150 W (2 A peak)
	RF Module	Operating Band 2.4 GHz Wi-Fi Standards 802.11 b/g/n
Materials	**Plastics Available**	Onyx
	Fibers Available	Fiberglass
	Tensile Strength	590 MPa (19.0x ABS, 1.9x 6061-T6 Aluminum) *
	Tensile Modulus	21 GPa (9.4x ABS, 0.3x 6061-T6 Aluminum) *
Part Properties	**Layer Height**	100 µm default, 200 µm maximum
	Infill	Closed cell infill: multiple geometries available
Software	**Supplied Software**	Eiger Cloud (Other options available at cost)
	Security	Two-factor authentication, org admin access, single sign-on

FRONT VIEW



SIDE VIEW



* Continuous fiberglass data. **Note:** All specifications are approximate and subject to change without notice.

WÜRTH
ADDITIVE GROUP

Würth Additive Group's 3D printing services offer a streamlined and efficient method to simplify your supply chain, reduce development times, and increase the ability to adapt to your customers' needs. **This is the future of manufacturing.**

Würth's 3D Printing Delivers:

- Decades of experience in c-parts and supply chain management
- Lower purchasing costs and significant cost savings so you can concentrate on your core business
- Engineering expertise that saves time and money through more efficient fastening solutions
- Reduced component count and increased installation efficiency that adds to your bottom line
- A qualified sourcing team to verify dimensions and provide your printed part to our suppliers.
- An on-demand, knowledgeable sales team ready to discuss the different materials and printing capabilities available to you
- A range of printing resources from value-oriented to highly specified, customized parts

LEARN MORE ABOUT WÜRTH ADDITIVE GROUP:

shop.wurthindustry.com

info@wurthadditive.com

(877) 999-8784

@wurthadditivegroup

100+ LOCATIONS ACROSS THE U.S., CANADA, MEXICO & BRAZIL

WITH ADDITIVE MANUFACTURING SUPPORT ACROSS NORTH AMERICA

= WÜRTH ADDITIVE GROUP REPRESENTATIVE