

GEFERJEC

arc80X

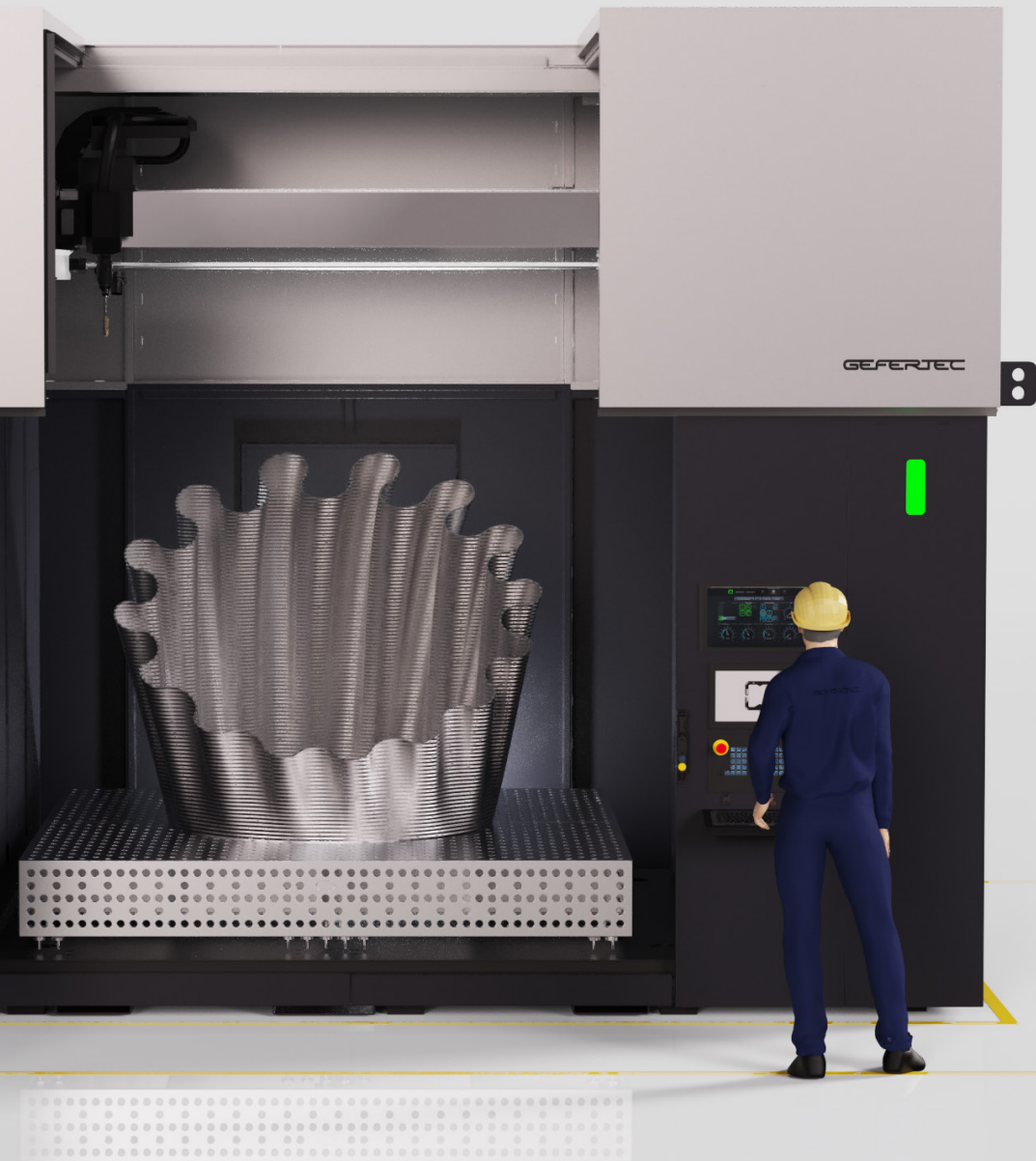
Think Smart | Think BIG | Think WAAM

Additive Manufacturing
of Large Metal Parts



Innovation meets efficiency

Your solution for excellent metal components



Do you want to produce **large-format metal components** – with the **highest quality, fast lead times** and **reduced material usage**? We have developed a solution for industrial use: Wire Arc Additive Manufacturing (**WAAM**), a 3D printing process that meets the highest demands, based on proven arc welding and precise NC Machining.



Cost efficiency

With WAAM, you can significantly reduce your production costs compared to conventional technologies.



Independence

Break the chains of global supply dependencies. With WAAM, you can simply print your components yourself - flexible, quick and just in time.



Wide range of materials

Combine different materials and use any welding wire alloys available on the market. If it's weldable, it's printable!



Speed

Short lead times are crucial. With WAAM, you can speed up the entire manufacturing and procurement process considerably. No unnecessary waiting for suppliers. Simply insert the wire and start printing.



Reliable quality

Our technology enables the production of components that are qualitatively on par with components made with conventional processes, such as casting, and often even surpass them.



Design freedom

WAAM masters even complex geometries with ease. Even challenging structures that are unfeasible using conventional methods can be done reliably with WAAM.

Tailored exactly for you – thanks to modular design

Benefit from the modular design of the arc80X. It is the key to efficient and economical production and allows you to put together exactly the machine you need for your requirements. And, of course, you can upgrade and convert it if you want to implement new functions.

Why not start with the economically attractive basic version of the arc80X, test your first applications and then decide how you want to expand your production system?

Sophisticated automation*

Benefit from automated tool measurement, gas nozzle cleaning, wire cutting and the replacement of wear parts. These functionalities increase efficiency and reduce manual effort.

Process monitor for quality and optimization

The integrated process monitor records and stores all relevant data during the printing process. This allows comprehensive documentation for quality assurance and process optimization.

Various welding power sources*

A selection of welding systems from different manufacturers enables flexible adaptation to your requirements and preferences.

Titanium module*

Enables the printing of components in a closed inert gas atmosphere, essential for the processing of sensitive materials such as titanium.

Flexible hardware

The arc80X offers a wide range of table options, from 5-axis simultaneous machining to 3+2 to pure 3-axis machining. You can determine the capabilities of your machine according to the needs of your parts.

Reliable ignition failure correction

Adjustable automatic routines react to ignition failures during the production process and keep it running.

Automated temperature monitoring*

The pyrometer integrated in the arc80X and the active component cooling enable reliable and efficient temperature management of the printed part – an integral factor for component quality.

* This option is not visible in the illustration



Your path to buying a machine

A partnership-based process with our experts

Before deciding to purchase a WAAM machine, many questions need to be clarified. This makes it all the more important to have an experienced and honest partner at your side. With over 200 completed component projects and 42 delivered machines, we know what is important and can help you make the right decision.

Your steps to success

Getting to know the technology

We start by introducing you to the technology and its possibilities. This enables you to make a well-founded decision as to whether our solutions meet your requirements.

Component screening

A detailed analysis of your components helps to identify technical feasibility and efficiency potential.

Profitability analysis

Together, we look at use cases and carry out profitability calculations to illustrate the financial added value of our technology for your company.

Benchmark projects

The realization of successful component projects will give you a clear idea of the possibilities and performance of the WAAM process for your components.

Qualification processes

To ensure the smooth implementation of our technology, we support you with our experience and consulting expertise in your qualification processes.

Support with the business case analysis

We help you to identify and describe a convincing business case that demonstrates the benefits and potential in your specific context.

Development of suitable visions

We support you in describing visions and strategies for integrating the technology into your business context.

Diverse financing models

Flexibility is key. We offer various financing models to meet your needs.

Your risk-free entry into the world of WAAM

We print your components

Do you want to benefit from the advantages of the WAAM process but do not (yet) want to invest in your own machine? Then use our job shop and benefit from our process know-how and expertise. Discover the possibilities and potential of our WAAM technology without any risk. Here are examples of components made by GEFERTEC.

Your advantages at a glance

Experience technology up close

We offer to produce your parts and give you a direct insight into the performance and quality of our systems.

Expertise that convinces

Our experts implement every project with the utmost care and precision. Benefit from our extensive experience from more than 200 realized component projects.

Validation and verification

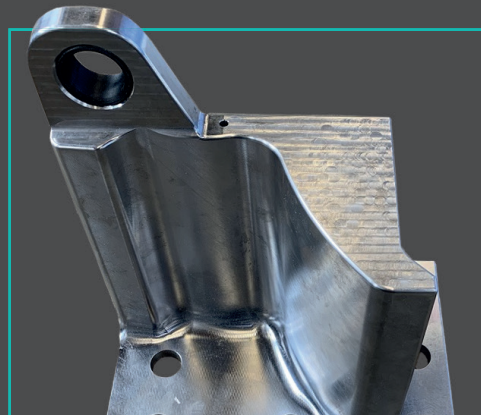
Let us validate the quality of your components and prove their cost-effectiveness with a clear cost presentation and production analysis.

Benchmark projects for clear insights

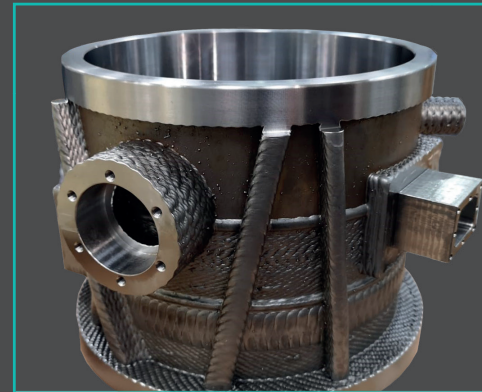
By carrying out benchmark projects, the advantages and efficiency of our technology in conjunction with your use cases can be impressively demonstrated

Access to proven technology

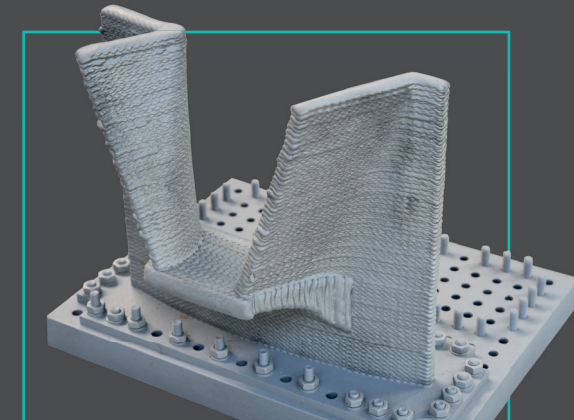
In our job shop, five highly reliable WAAM printers are waiting to make your projects become a reality.



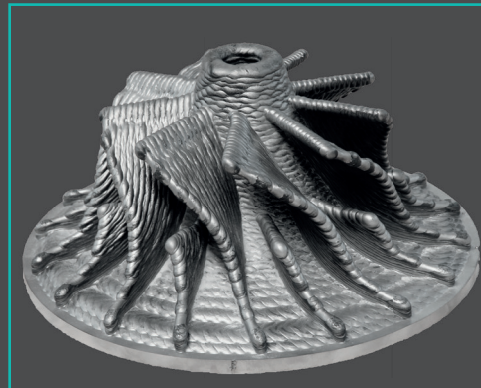
Secondary roll stop
Railway
Material: SW 100S NiMoCr



Gearbox housing
Mechanical engineering
Material: 1.4370



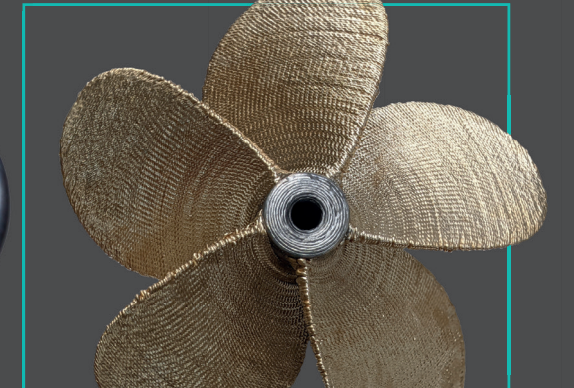
Load collar
Energy
Material: ER19-10 H



Impeller
Energy
Material: 1.4370



Bellmouth intake
Pressure devices
Material: 316 L



Propeller
Maritime
Material: 316L (shaft) & CuAl7 (blades)

The best employees for your manufacturing success

Our experts at your side

It is our aim to enable you to immediately maximize the benefits of your machine. Our offer to you: Our experts will take care of the more in-depth tasks of component production using WAAM. That way you can get started immediately, even without your own team of specialists.

Cost-efficient and practical

Hiring your own specialists can be costly and time-consuming. Our experts are at your direct disposal - without complex personnel processes.

Highly qualified specialists

Our process technicians and CAM engineers are experienced and specialized. They ensure that your projects are implemented efficiently and with the highest quality.

Flexible support

Whether you need help getting started or want to supplement your own team - we adapt to your needs.

Comprehensive services

We can advise you on the choice of material, develop the necessary process parameters, create the CAM programs and much more.

Results that impress

With our help, you will quickly achieve high-quality results. Your investment in the machine pays off right from the start.



Using WAAM technology as required

Our „pay-per-use“ offer gives you maximum flexibility

Discover the world of WAAM with our innovative „pay-per-use“ model, which offers you a new dimension of financial flexibility. With this option, you pay only for the hours the machine is actually in use - an ideal solution for getting started with advanced WAAM technology without a large upfront investment.

Alternative financing options

We understand that the traditional way of purchasing machinery is not the best solution for every business. That's why we offer alternative financing options that give you the freedom to make the choice that best suits your business.

This flexibility allows you to make an informed decision without over-committing yourself financially in the long term.

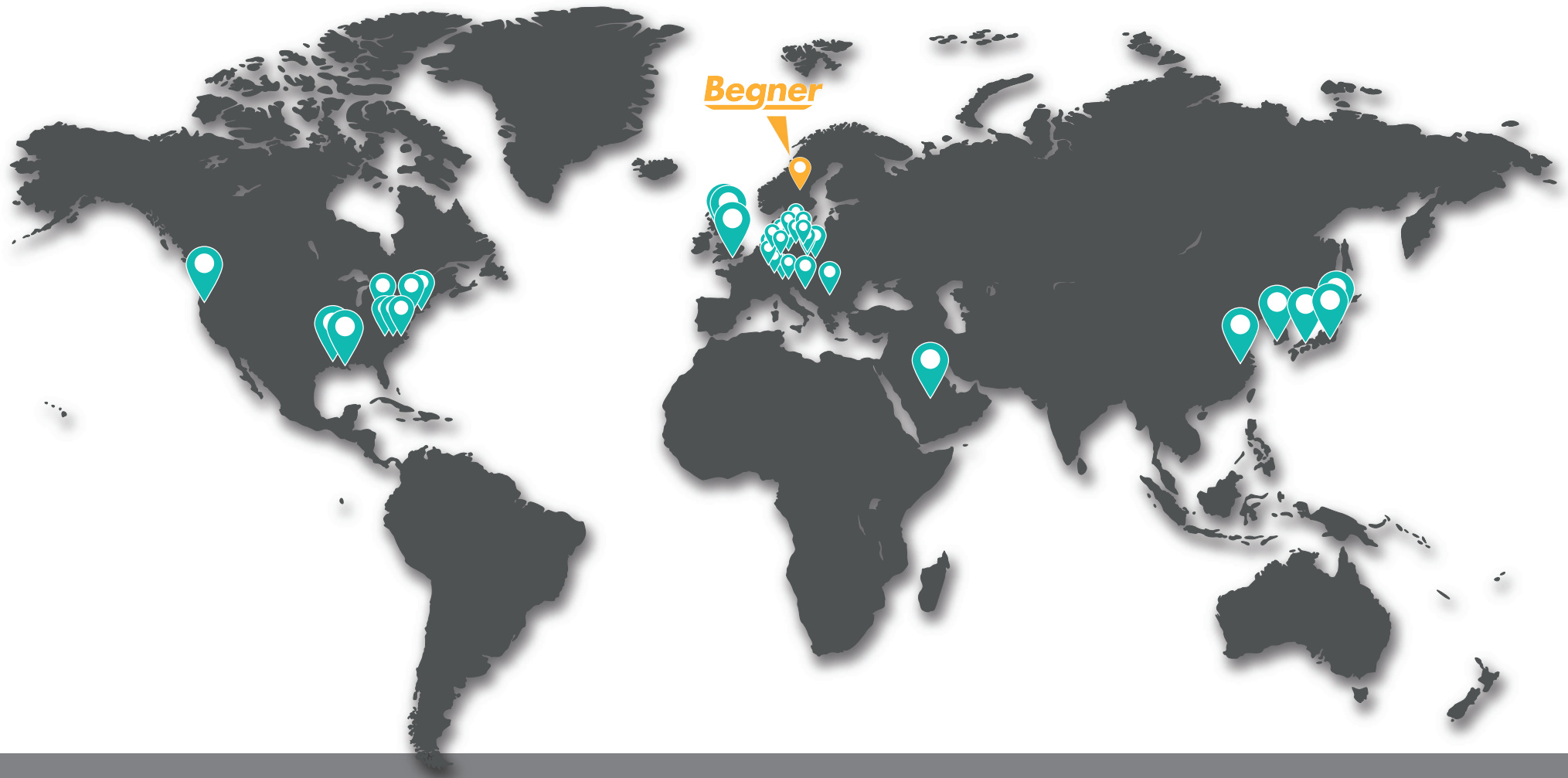
We are confident that the combination of advanced WAAM technology and comprehensive service will convince you to continue on this forward-looking path. And should you decide at the end of the term that WAAM is not right for your company, we offer you the option of returning the machine. This allows you to remain flexible in your decision and minimize your risk.

With the „pay-per-use“ model, you enter the world of WAAM risk-free. Don't miss out on this opportunity to invest in a technologically advanced future while retaining financial flexibility.



Market leader since 2015

Our years of experience are your guarantee of success



Since our foundation in 2015, we have established ourselves as a pioneer and market leader in the field of Wire Arc Additive Manufacturing (WAAM), a position that is underlined by our global presence with 32 satisfied customers and 42 machines successfully installed in the market. Our wide-ranging expertise spans various key industries, including tool & mold making, machinery & plant engineering, the energy sector, maritime applications, aviation, pressure vessel construction and the railway sector.

With over 200 successfully completed component projects, we also demonstrate not only our technical expertise, but also our ability to find individual solutions for each of these orders. The projects demonstrate a successful mix of engineering knowledge and practical application experience. Our intense commitment is reflected in every single project. As your partner in the world of WAAM technology, we work to keep you at the forefront of technological progress.



Member of B.I.G.

B.I.G. has been an investor in GEFERTEC from the very beginning - we have been 100% owned by the Berlin Industrial Group since 2023. Together with Scansonic, Lumics and Metrolux, the group achieved a turnover of € 57.4 million in 2023. Every single one of the approximately 350 employees is part of B.I.G. companies' success story being world champions in their niches.

Configuration example 1 | 3-axis option

Working space

Max. size of producible parts (x - y - z)
in mm | inch 2000 – 2000 – 2000 | 78.7 – 78.7 – 78.7 ¹

Linear axes

Linear speed (x – y – z) in m/min | ft/min 15 – 15 – 15 | 49.2 – 49.2 – 49.2

Components

Power Source	Fronius TPS 400i PULSE
Control	SIEMENS Sinumerik ONE
Interface	HMI via control panel and machine operating panel with additional industrial keyboard and monitor for process observation
Data acquisition	Process data acquisition via an integrated Beckhoff-Industry-PC and graphical user interface for parameter visualization ²
Electrical cabinet	2 control cabinet units for measuring and power electronics
Cooling	Hydac 4 or 6 kW
Local fume extraction	TBH FP 150

Welding table

Title	Siegmund ²
Max. table payload in kg lb	8000 17 637
Max. dimension welding table width x depth in mm inch	2400 x 2400 95.5 x 95.5

Additional information/Local requirements

Outer machine dimensions (depth x width x height) in mm inch	5000 x 3500 x 3850 196.9 x 137.8 x 151.6
Space requirement (L x W) in mm inch	7300 x 6800 287 x 267 ³
Power connection in A	1 x 100 Back-up fuse
Compressed air in bar MPa	1 x 6 – 10 1 x 0.6 – 1 (recommended flow 530 l/min)
Weight in t lb	ca. 19 41 887.8 (mass with max part weight) ⁴



¹ These are maximum values, there may be deviations depending on the selected variant & options.

² The specified configuration may vary.

³ The space requirement may be reduced depending on the option selected.

⁴ Weight incl. all options and max. possible component.

GEFERTEC reserves the right to make changes to technical specifications and the scope of equipment. No liability is accepted for spelling and printing errors or mistakes

Configuration example 2 | 5-axis option

Working space

Max. size of producible parts (ø – z) in mm | inch 900 – 1 400 | 35.4 – 55.1 (A=0°) ¹

Linear axes

Linear speed (x – y – z) in m/min | ft/min 15 – 15 – 15 | 49.2 – 49.2 – 49.2

Components

Power Source	Fronius TPS 400i PULSE
Control	SIEMENS Sinumerik ONE
Interface	HMI via control panel and machine operating panel with additional industrial keyboard and monitor for process observation
Data acquisition	Process data acquisition via an integrated Beckhoff-Industry-PC and graphical user interface for parameter visualization ²
Electrical cabinet	2 control cabinet units for measuring and power electronics
Cooling	Hydac 4 or 6 kW
Local fume extraction	TBH FP 150

Welding table

Title	Peiseler ZAS320
Max. table payload in kg lb	500 1 102.3
Max. dimension cooling plate (ø) in mm inch	800 31.5
Swiveling range in ° (degree)	-90/10 ¹
Rotating range in ° (degree)	no limit
Rotational speed A-axis in 1/min rpm	15
Rotational speed C-axis in 1/min rpm	36

Additional information/Local requirements

Outer machine dimensions (depth x width x height) in mm inch	5 000 x 3 500 x 3 850 196.9 x 137.8 x 151.6
Space requirement (L x W) in mm inch	7 300 x 6 800 287 x 267 ³
Power connection in A	1 x 100 Back-up fuse
Compressed air in bar MPa	1 x 6 – 10 1 x 0.6 – 1 (recommended flow 530 l/min)
Weight in t lb	ca. 12 26 455.5 (mass with max part weight) ⁴ unladen weight 11 24 250.8

¹ These are maximum values, there may be deviations depending on the selected variant & options.

² The specified configuration may vary.

³ The space requirement may be reduced depending on the option selected.

⁴ Weight incl. all options and max. possible component.

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