



Relay Values Carry Trust



ArcMan S Series

Lightweight Intelligent Ded-arc Manufacturing System



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Lightweight Intelligent Ded-arc Manufacturing System

ArcMan S1 Adv, as the world's first mini-integrated intelligent ded-arc manufacturing system, under the guidance of lungoPNT additive manufacturing (AM) software, realizes intelligent AM manufacturing of small and medium-sized metal components with high performance, high efficiency and high cost performance through flexible six-axis robot equipped with ultra-high stability fuse power supply. It is equipped with molten pool monitoring system, process printing data monitoring, environmental temperature and humidity monitoring and integrated smoke exhaust and dust removal system. From teaching and training, material development, design and research to manufacturing, no matter whether you have rich experience in ded-arc, you can "enjoy" at the end of thinking.

Product characteristics

High quality high efficiency and low cost

Equipped with self-designed and customized WeldWand series PlusMIG welding torch, it ensures the stability of printing process and improves printing accuracy. The minimum printing thickness of stainless steel can reach 2mm; The molding efficiency of the equipment is high, and the maximum molding efficiency of the parameters in the process library can reach 1085cm³/h; The cost of consumables is low, some of which are as low as 7-8 yuan/kg.

Intelligent

Equipped with lungoPNT software specially developed for ded-arc, it is more suitable for the exclusive slicing mode and filling path planning of ded-arc, and realizes the quality control of AM based on graphic optimization; Combined with the characteristics of ded-arc process, aiming at the whole workpiece and special characteristic position, the AM program is intelligently optimized to reduce the generation of printing defects.

Process visualization

Through layout simulation and dynamic path simulation with extremely high reduction degree, the printing process is dynamically displayed, 360-degree speed change without dead angle is viewed, accessibility and singularity are verified offline in advance, "blind typing" is rejected, and printing efficiency is improved.

Convenience and lightweight

The equipment occupies a small area, and the weight of the whole machine is only 1T, so the operator can easily push the equipment to a suitable operating position and fix it. Without additional auxiliary facilities and site installation requirements, rapid deployment can be completed by connecting power supply and protective gas.

Strong applicability

Widely used in material development, innovative application development, teaching practice, product proofing/production, product repair and other scenarios; AM materials such as aluminum alloy, magnesium alloy, superalloy, cemented carbide, cobalt-chromium alloy, nickel-based alloy, copper alloy, stainless steel, steel, etc.

Easy to use and friendly human-computer interaction

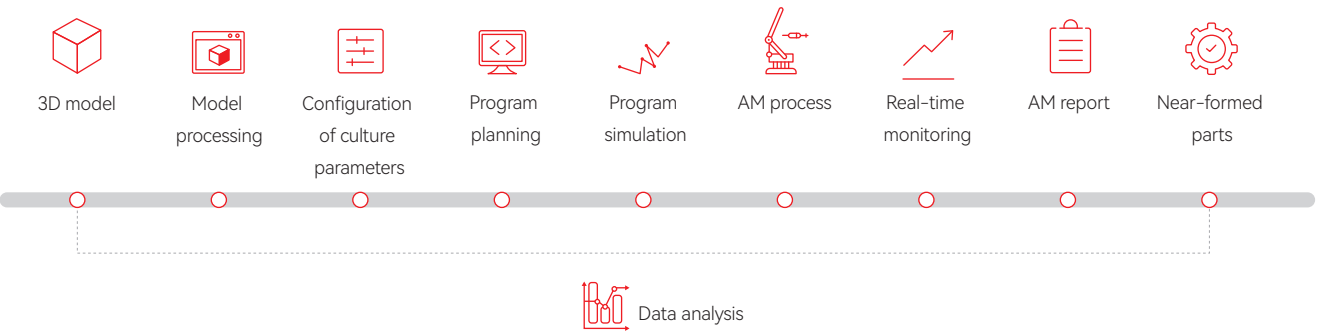
Simple operation, equipped with special CAM software lungoPNT for ded-arc, it only takes six steps to realize AM; One-button start, closed-loop software control, simple and convenient.

Safety protection

The equipment has an integrated protective shell, equipped with an arc-proof noise-reducing lifting observation door to isolate arc and noise damage: equipped with a molten pool camera, which can clearly watch the molten pool and arc state through the display; Equipped with smoke filter system to prevent smoke from damaging human respiratory health.

Ded-arc manufacturing

Wire Ded-arc Manufacturing (WAAM) is an advanced digital manufacturing technology, which uses arc or plasma arc as heat source to melt metal wire, adopts layer-by-layer cladding principle under the control of program or software, and manufactures 3D metal blank from line-surface-body according to 3D digital model, which is close to the requirements of product shape and size.



Equipment parameters

Model	ArcMan S1 Basic	ArcMan S1 Adv
Equipment dimensions	About 1500*1400*2000mm	
Molding range	700*500*450mm(available at different times)	800*500*500mm (available at different times)
Molding efficiency	50-1085cm ³ /h (determined by welding wire material characteristics and process)	
Path accuracy	Software planning accuracy: 0.25mm, robot absolute accuracy: 0.5-0.8mm	
Forming accuracy	It is determined by the material characteristics and process of welding wire	
AM material	Aluminum alloy/magnesium alloy/copper alloy/stainless steel/carbon steel (equal weldable material-welding wire)	
	Wire diameter: 0.8/0.9/1.0/1.2/1.6mm	
Rated power	About 20Kw	
AM process	Conventional MIG/MAG	CMT/Pulse/C+P/CMT Adv etc
Working environment	Power supply: 380V 10%, 50Hz 2%; Ambient temperature: 0-45 °C; Relative humidity ≤ 85%	
Safety protection	Integrated protection (lifting door/anti-arc observation window)	
Dust removal system	Customized smoke filtration system	
Actuator	Domestic Cooperative Robot (JAKA)	Industrial six-axis robot
CAM software	lungoPNT V3.0	
Fuse power supply	Customized domestic welding power supply	TPS 4000 CMT Adv
Computer mainframe	High performance computer	
3D camera	/	Optional: 3D Area Laser Camera (Configuration Software Expansion Pack)
Data acquisition	Welding parameters/temperature and humidity	
Molten pool monitoring	/	Xiris or Tardis
Control system	lungoBOX	
lungoMC	Optional: McCat.HMI185	