WE WALK ALONGSIDE THE WORLD

Stock Code: 300415

Designed by Yizumi, May 2021

SpaceA

Industrial Pellet 3D Printing

Simple. Fast. Competitive

广东伊之密精密注压科技有限公司

Guangdong Yizumi Precision Injection Molding and Die Casting Technology Co., Ltd.

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1.We reserve the right to change specifications without prior notice.
2.The pictures are only for reference, please refer to the real object.
3.Data above come from Yizumi lab, available for reference.

YouTube YIZUMI_Official

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YIZUMI

ABOUT YIZUMI »

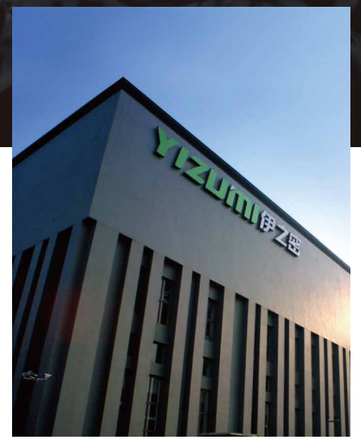
WE WALK ALONGSIDE THE WORLD

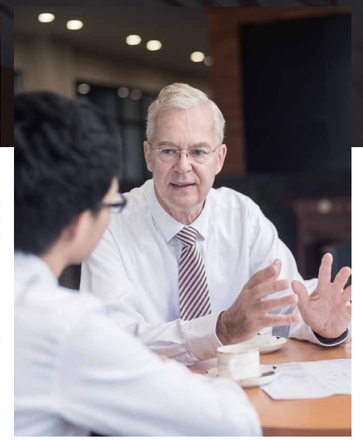
YIZUMI IS COMMITTED TO BE A TECHNOLOGICALLY LEADING SUPPLIER OF THE BEST COST-EFFECTIVE SOLUTION.

Founded in Guangdong, China in 2002, Guangdong Yizumi Precision Machinery Co., Ltd. is a ChiNext-listed company focusing on the fields of polymer molding and metal forming. The company involves in design, R&D, manufacture, sale and service of injection molding machines, die casting machines, rubber injection machines, high-speed packaging systems and automated robotic systems.

Yizumi mainly produces injection molding machine, die casting machine, high speed packaging machine, mold and robot. Also, Yizumi owns many technical services centres and over 40 global distributors, business covers over 70 countries and regions. It has established production bases at home and abroad covering an area of nearly 600,000 square metres, and has over 3,000 employees globally.

In China, Yizumi successively set up three major manufacturing bases in Gaoli, Wusha and Suzhou to comprehensively upgrade its productive capacity. In 2017, Yizumi built manufacturing bases in India and the United States. In addition, Yizumi has established technology service centers, R&D centers and a sales network, implementing the globalized operations strategy.





NEW COOPERATION BETWEEN CHINA & GERMANY CREATE INDUSTRIAL SOLUTION »

USING SYNERGIES AND SCALE YOUR PRODUCTION

INDUSTRY FOCUS

» Customer friendly and ergonomic system
» Reliable machine technology

KNOW-HOW IN AUTOMATION

» Set-up complex automation lines
» Simple to use turn-key systems

KNOW-HOW IN MECHANICAL ENGINEERING

» Robust extruder design
» Energy saving approach

MATERIAL KNOWLEDGE

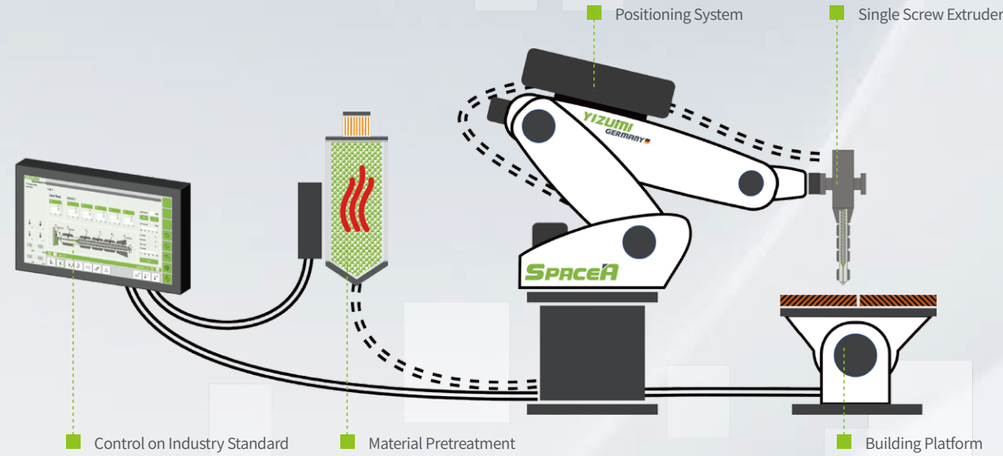
» Focus on the use of standard materials
» Fast material check & start of production

PROCESS KNOWLEDGE

» Innovative machine control basedd on dynamic algorithms
» Own application engineering departments for customer support

DEVELOPMENT FOCUS

» Continious improvement as a key strategy
» Development of new machine designs for a best practice economic production

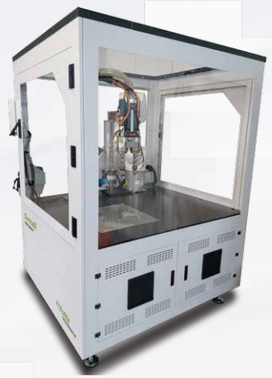


» Standart interfaces
» Consistent automation approach

PRODUCE 24/7

SCALABLE PART SIZE

PERFECT MACHINE FOOTPRINT
TO PART SIZE RATIO



HIGH THROUGHPUT RANGE
20 g/h - 1,500 g/h

LOW PART COSTS:
~8 €/kg

HIGH PRECISION RANGE
0.15 mm - 1.2 mm

LOW ENERGY
CONSUMPTION
< 0.8 kWh/kg

LOW DEMAND ON
INFRASTRUCTURE

APPLICATION AREAS »

ONE EXTRUDER, MANY OPPORTUNITIES

Customer are not only satisfy with single product but also customized, shorten developing, function integrated product. In order to meet new requirement, additive manufacture is applied in industry around 30 years, there are still some restriction like high material cost, dimension restriction, low productivity, low precision.

SpaceA is developed by Yizumi-Germany and IKV using screw extrusion technology, it can use fiber filled thermoplastic granule directly. The system also integrate additive manufacture and subtractive manufacture to achieve automation and mass production which causing SpaceA outstanding.

PELLET SUPPLY UNIT

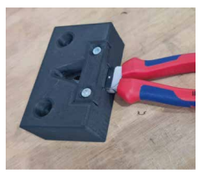
» Weight: 877 g
Production Time: 82 min
Material Costs: 3.51 €
Material: PA6 CF30
Production Costs: 7.41 €
Size: 280 × 160 × 400 mm³

GRIPPER FINGER

» Weight: 60 g
Production Time: 165 min
Material Costs: 0.24 €
Material: PA6 CF30
Production Costs: 8.09 €
Size: 65 x 250 x 120 mm³

FIXATION ELEMENT

» Weight: 207 g
Production Time: 610 min
Material Costs: 0.83 €
Material: PA6 CF30
Production Costs: 29.39 €
Size: 120 × 70 × 40 mm³



COMPETETIVE TO MILLING PROCESSES

High Precision

COMPETETIVE TO MOULDING PROCESSES

STRUCTURAL (CRASH-RELEVANT) PART

» Weight: 810 g
Production Time: 74 min
Material Costs: 3.24 €
Material: PA6 CF30
Production Costs: 6.81 €
Size: 320 × 550 × 135 mm³

DRONE BODY

» Weight: 1050 g
Production Time: 125 min
Material Costs: 4.17 €
Material: PA6 CF30
Production Costs: 10.11 €
Size: 800 x 800 x 370 mm³

BICYCLE FRAME

» Weight: 700 g
Production Time: 100 min
Material Costs: 2.8 €
Material: PA6 CF30
Production Costs: 4.91 €
Size: 620 × 250 × 200 mm³

High Speed

BENEFITS AT A GLANCE »

MATERIAL DIVERSITY

The screw plasticizing unit is operated with conventional thermoplastic granulate. Compared to filament-based production technologies, this enables the processing of unfilled, but also highly filled plastic compounds with simultaneously high and scalable throughputs. The possible high throughput leads to a considerable cost advantage in the processing of engineering thermoplastics. In addition, depending on the material, the low price of granulate (approx. 1 to 8 €/kg) compared to filament (approx. 20 to 500 €/kg) results in a considerable cost reduction potential.

As with all manufacturing processes, the production results depend on the process capability of the material used. The main aspects here are dimensional accuracy (shrink drives) and mechanical properties (adhesion drives).

» Easily available » Low cost » Already certified materials

PA6 CF, PEEK, TPE/TPU, PP/PE, PP GF, PC / PMMA

AND MANY MORE…

BENEFITS AT A GLANCE »

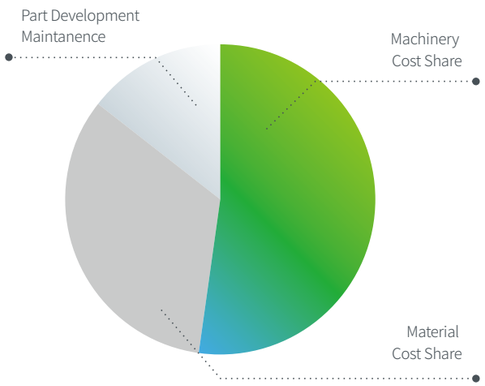
PRODUCTIVITY & ECONOMICAL EFFICIENCY

The high productivity of the process used is based on the physical principle of shear heating within the screw extruder. In contrast to the pure plastification via heat conduction, a scalable conveying rate independent of the thermal conductivity of the material can be achieved. Depending on the process point, the throughput rate can be increased to several kilograms per hour.

Like previous manufacturing processes, additive manufacturing plants must also be subject to the usual investment calculations. Accordingly, the plant investment must be reduced and the material output increased at the same time. Only with high ratios of absolute investment and material output per year can an economic production be guaranteed in comparison to injection molding.

» High material throughput » Low material costs » Low machine investment

COST ALLOCATION



■ Part cost: <8€/kg part weight

GET THE WHITE PAPER FOR YOUR INDIVIDUAL ECONOMIC ANALYSIS:

Scan QR code for more information

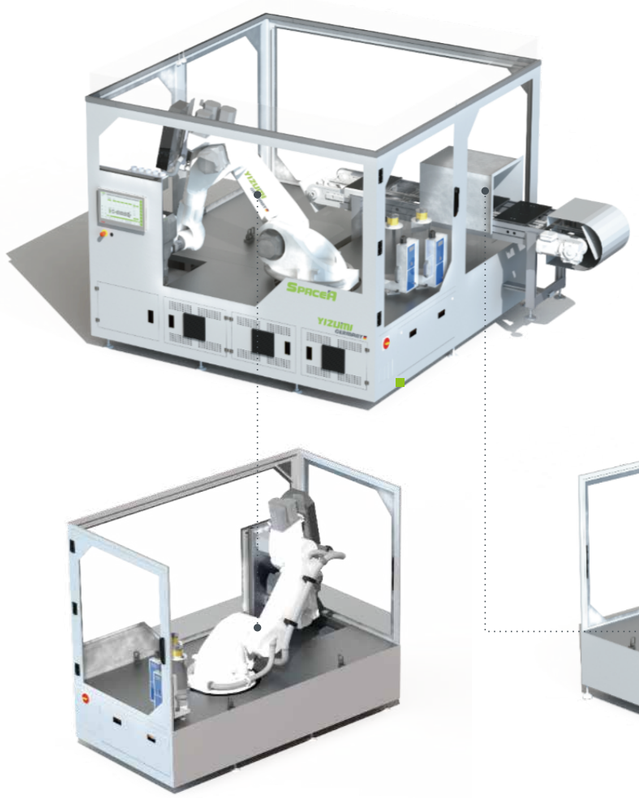
» HIGH THROUGHPUT
» LOW MANUAL EFFORTS
» LOW MACHINE INVESTMENT
» LOW ENERGY CONSUMPTION

BENEFITS AT A GLANCE »

SCALABILITY

The flexibility of the system is based on the separation of platform module and print module. Thus, a standardized production module can be combined with different platform modules or several production modules can be combined with one platform module.

Thanks to this modularity, the system can also be easily integrated into existing production chains, for example to functionalize injection molded parts. The high productivity of the SpaceA product family makes it possible to apply sealing elements or reinforcing structures to the component in the cycle of an injection molding machine.



FOR FLEXIBLE USE ON A STANDARD BASIS

SpaceA using high module design with print module and platform modul, could match different products and system for flexible production.

PRINT MODUL

- Screw extruder
- Milling cutters
- Gripper
- Granulate dryer
- Further solutions on request

PLATFORM MODUL

- Workpiece carrier conveyor system
- Conveyor
- Turntable
- Fixed construction platform
- Further solutions on request

» SCALABLE ROBOT SIZE
» POSSIBLE LINE INTEGRATION
» STANDARD INTERFACES

BENEFITS AT A GLANCE »

HIGH POTENTIAL OF AUTOMATION

A 6-axis industrial robot overcomes the usual limitations of component size and design complexity. In order to ensure reproducible dimensional accuracy and high surface quality and at the same time avoid a restriction of component complexity, subtractive processes are integrated into the manufacturing process by combining additive structure and machining in one manufacturing system.

Based on this approach, it is also possible to integrate inserts such as threaded or bearing bushes, injection molded parts, electronic or ceramic inserts and to equip the component to be manufactured with additional functions. For this purpose, the machine used for extrusion and machining operations is equipped with a standardized tool changing system, which guarantees a high degree of automation and flexibility.

PRODUCT OVERVIEW »

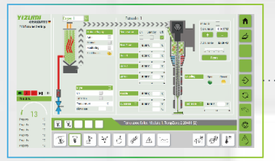
SpaceA
TECHNOLOGY

SpaceA technology is based on the layer-by-layer deposition of molten thermoplastic. A solid component can be built by solidifying this melt strand. Yizumi's SpaceA technology is based on 4 principles for economical use:

- » USE OF A SCREW EXTRUDER
- » USE OF A HIGH PLANT MODULARITY
- » USE OF A 6-AXIS POSITIONING SYSTEM
- » USE OF AN INDUSTRY STANDARD CONTROL SYSTEM

First, the material is pre-treated in a dryer. This dryer is included in all standard systems. The material is fed from the dryer to an extruder. The extruder is a compact single-screw extruder weighing only 6.5 kg. There the pellets are plasticized and discharged in a defined manner. The final component can then be produced on the construction platform by a relative movement of the positioning system. The entire process is controlled by a higher-level control system.

※ The controller allows networking with other production units on the hardware and software side.Interfaces such as EUROMAP 67,Ethernet or EtherCat are available as standard.



SERENITY-CONTROL

HIGHER PRODUCTION EFFICIENCY AND ECONOMIC BENEFITS

DRYER

EXTRUDER

- **CONTROL ON INDUSTRY STANDARD**
  Higher-level control concept with many interfaces available in the standard version
- **SINGLE SCREW EXTRUDER**
  Most compact extruder technology with concentric feed zone and integrated drying unit
- **POSITIONING SYSTEM**
  A 6-axis robotic system with positioning accuracies of 0.05 mm
- **MATERIAL DRYING**
  Integrated drying unit can achieve raw material pretreatment.

SpaceA – EXEMPLARY SYSTEMS »

SpaceA-1-900-500 S

Positioning: An industrial robot (10 kg max. weight)

Building Platform: 1 fixed magnetic building platform (640 x 400 cm^2)

Tools: 1 Extruder

Footprint: 1.2 x 1.3 m^2

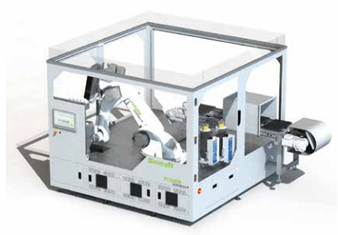
SpaceA-1-2000-500 S1

Positioning: An industrial robot (30 kg max. weight)

Building Platform: 1 fixed magnetic building platform (1.5 x 1.0 x 1.5 m^3)

Tools: 1 Extruder

Footprint: 2.7 x 2.8 m^2



SpaceA-1-2000-500 H2

Positioning: An industrial robot (30 kg max. weight)

Building Platform: Piece carrier system (0.4 x 0.4 x 1.5 m^3)

Tools: 2 Extruder
1 milling spindle

Footprint: 2.7 x 2.8 m^2

SpaceA-2P-2000-500 H2

Positioning: Two industrial robots (30 kg max. weight)

Building Platform: tilting rotary table(2-Axis) (2 x 1.5 x 1.5 m^3)

Tools: 4 Extruder
2 milling spindles

Footprint: 5.0 x 2.8 m^2

SpaceA LARGE PRINT

Positioning: An industrial robot (30 kg max. weight)

Building Platform: Steel pallet construction (2x2x2 m^3)

Tools: 1 Extruder

Footprint: 4.3 x 2.8 m^2

SpaceA TEXTILE PRINT

Positioning: An industrial robot (30 kg max. weight)

Building Platform: Semi automated sliding platforms (1.6x1.6 m^2)

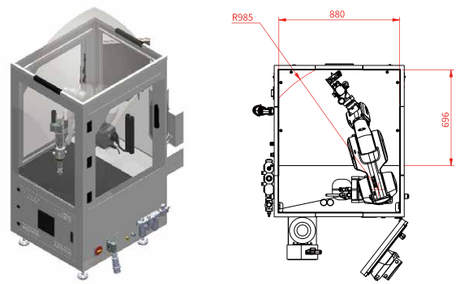
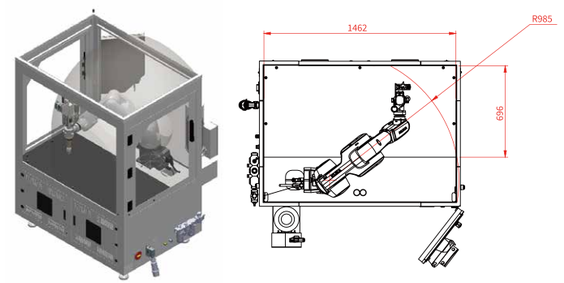
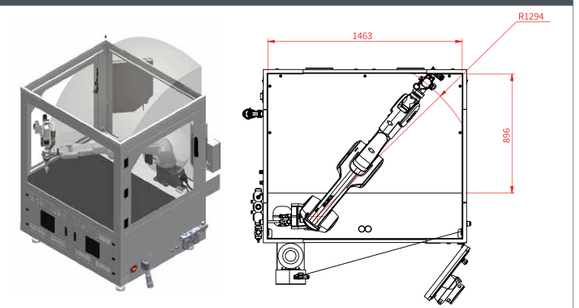
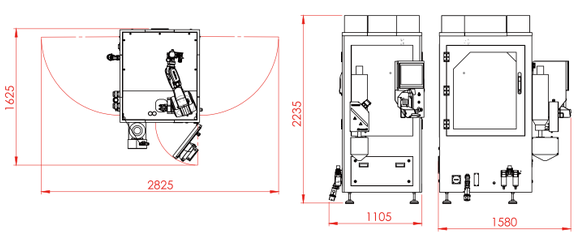
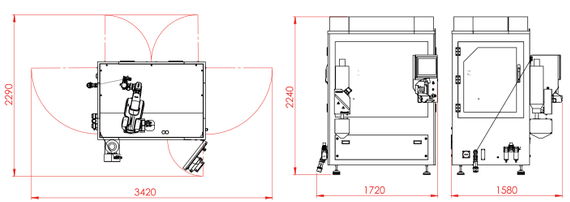
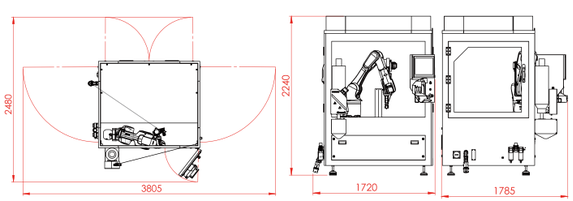
Tools: 1 Extruder

Footprint: 4.6 x 2.8 m^2

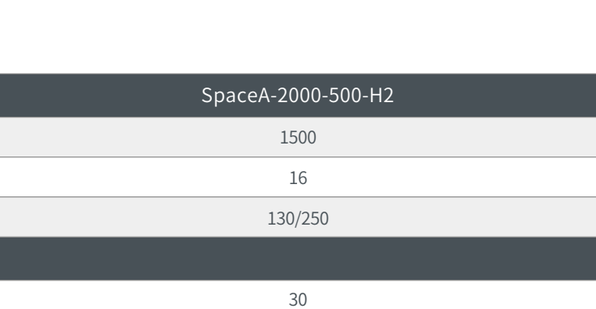
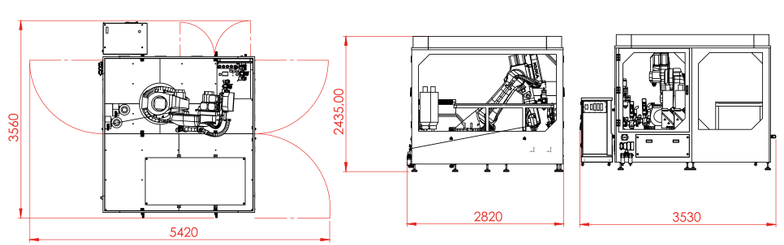
OPTION LIST »

HARDWARE
Heated Building Platform (Different Dimensions)
Variothermal Building Platform (Different Dimensions)
Lighting Package
Layer Cooling
WPTC-Package Workpiece Temperature Control
Conveyor Belt Integration
Piece Carier System Integation
Auto Bed Leveling
Gripper Package
Automated Pellet Supply System
Extruder Extension (more throughput)
Multi Parts Melt Destributor
Needle Valve Nozzel
SOFTWARE
Process Chain Generator
Digital Interfaces (OPC-UA, Ethernet, EtherCat, Profibus)

SPECIFICATIONS »

ITEM	UNIT	SpaceA-900-500-S	SpaceA-900E-500-S	SpaceA-900E-500-T2	SpaceA-1100-500-S	SpaceA-1100-500-2T
Max. Throughput	cm^3/h	1500	1500	2×1500	1500	2×1500
Screw Diameter	mm	16	16	2×16	16	2×16
Screw Rotation Speed	RPM	130/250	130/250	130/250	130/250	130/250
Roboter Load	kg	10	10	10	10	10
Roboter Arm length	mm	900	900	900	1100	1100
Pneumatic Pressure	bar	8	8	8	8	8
Pneumatic Flow, Peak	L/min	500	500	500	500	500
Max Power	W	900	900	1300	900	1300
Voltage	V	400	400	400	400	400
Curent	A	32	32	32	32	32
Heating Zones		4	4	2×4	4	2×4
Heating Power	W	400	400	2×400	400	2×400
Machine Size	m	1600×1100×2300	1600×1700×2300		1800×1700×2300	
Machine Weight	kg	780	950	960	970	980
Machine Appearance						
Machine Dimensions						

SPECIFICATIONS »

ITEM	UNIT	SpaceA-2000-500-H2
Max. Throughput	cm^3/h	1500
Screw Diameter	mm	16
Screw Rotation Speed	RPM	130/250
Roboter Load	kg	30
Roboter Arm length	mm	2100
Pneumatic Pressure	bar	8
Pneumatic Flow, Peak	L/min	500
Max Power	W	1800
Voltage	V	400
Curent	A	63
Heating Zones		4
Heating Power	W	400
Machine Size	m	3500×2900×2500
Machine Weight	kg	2800
Machine Appearance		
Machine Dimensions		

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Max. Throughput	cm^3/h	1500
Screw Diameter	mm	16
Screw Rotation Speed	RPM	130/250
Roboter Load	kg	30
Roboter Arm length	mm	2100
Pneumatic Pressure	bar	8
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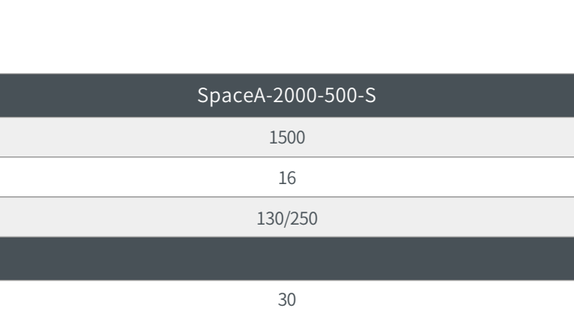
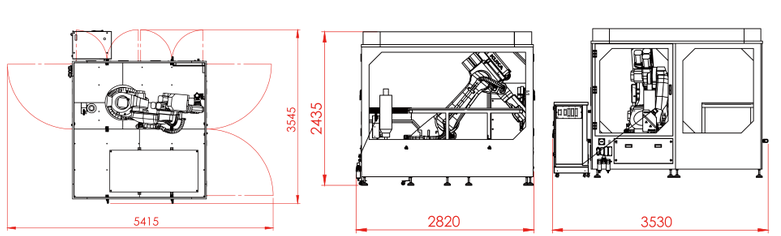
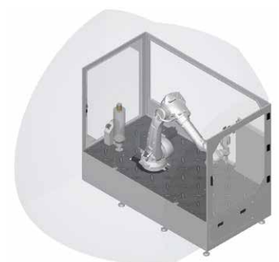
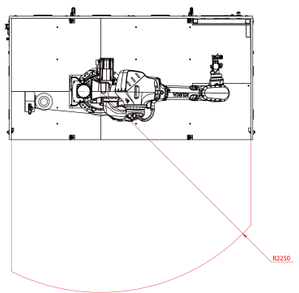
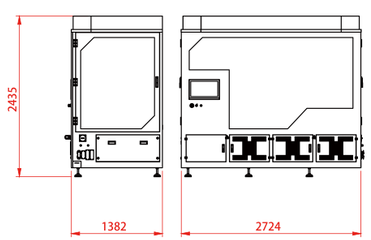
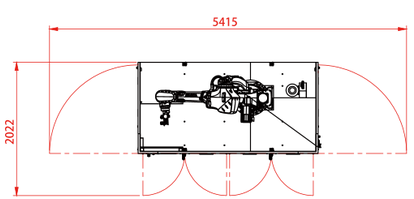
Machine Appearance		
Machine Dimensions		

SPECIFICATIONS »

ITEM	UNIT	SpaceA-2000-500-H2 – Print Modul
Max. Throughput	cm^3/h	1500
Screw Diameter	mm	16
Screw Rotation Speed	RPM	130/250
Roboter Load	kg	30
Roboter Arm length	mm	900
Pneumatic Pressure	bar	8
Pneumatic Flow, Peak	L/min	500
Max Power	W	1800
Voltage	V	400
Curent	A	63
Heating Zones		4
Heating Power	W	400
Machine Size	m	3500×2900×2500
Machine Weight	kg	2400
Machine Appearance		 
Machine Dimensions		 

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Max. Throughput	cm^3/h	1500
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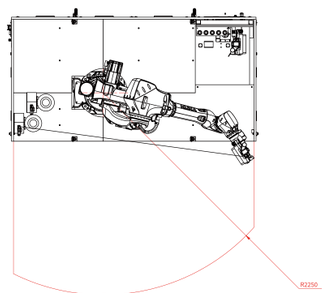
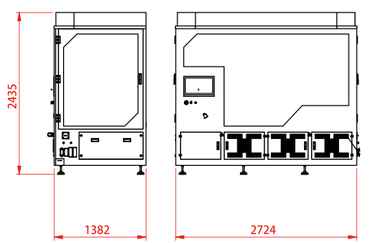
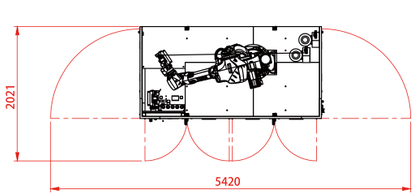
Machine Appearance		 
Machine Dimensions		 

YFO:6 PREMIUM SERVICES »

FOCUS ON THE MACHINE AND CARE MORE ABOUT THE CUSTOMER EXPERIENCE

Telephone follow-up

Setting up customer files and providing consulting and guidance services.

Door-to-door service

Regular on-site nspection by service engineers, providing preventative maintenance.

Spare part service

Convenient spare part supply network, quick and accurate delivery.

Training

Focused training for professionals and customers.

Engineer grading

Grading for YFO service engineers to regulate service standards

24-hour service

365-day, 24-hour hotline service, about 200 maintenance experts for your needs.

YIZUMI e-service 24h

DELIVERING A REAL-TIME SERVICE SYSTEM FOR ITS CLIENTS

Through YIZUMI e-service, you can have a full-day, online support, mobile and rapid remote repair and maintenance as well. Regardless of where you are, it can deliver a rapid, convenient, online after-sales service, ensuring the equipment to be maintained in the best condition for the long term.

Rapid | Reliable | Effective | Visual | Recordable | Can be evaluated | Cost effective

YIZUMI E-SERVICE CAN DELIVER THE FOLLOWINGS TO YOU ……

Mobile Operation: Smart Phone/Tablet/PC Multiplatform available.

Download the APP, enter equipment serial number /scan equipment QR code and the registration is completed.

IOS Android