THINK TECH FORWARD

Designed by Yizumi, July 2024

YIZUMI

A3

Upgraded. Intelligent. Efficient.

INTELLIGENT. SIMPLE.

Yizumi devoted to making the production and management of rubber parts intelligent and simple.

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THINK TECH FORWARD

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Technology Innovation

Global Innovation Platform

The A3 series rubber injection molding machine benefits from Yizumi Global Innovation Center, utilizing the platform's advantages and cluster effects to maximize the value chain of product innovation.

To build an international technical talent team and gather global wisdom

Focusing on talents as the core competitiveness, we evolve alongside the world's advanced technology

>22%
Proportion of global technical personnel

100+
Master and Doctor

800+
Global technical staff

Outstanding engineer training program

R&D Innovation System

Construction of Reliability System 2.0

Reliable Technology | Design Reliability | Manufacture Reliability | After-sales Reliability | Material Reliability | Digital Support | Environmental Adaptation

Not only focusing on the reliability during the product usage phase, but also paying attention to the comprehensive reliability throughout the entire lifecycle and supply chain of the product.


Mechanical Property


Composition Analysis


Metal Microstructure Inspection


Fatigue Resistance


Stress-strain & Vibration Noise


3D Scanning Reverse Engineering


Dust Partical Detection

+ Enhance production efficiency
+ Enhance product reliability
+ Extend service life
+ Improve safety
+ Optimize investment return

— Reduce downtime
— Reduce maintenance cost

Intelligent Manufacture

Based on Yizumi Manufacturing 4.0 plan, Yizumi rubber machine production workshop has been established with a high-level digital assembly line, jointly creating Yizumi Manufacturing 4.0 with the group. By having real-time control of production plans, product quality, and equipment operation status, the production process can be managed more meticulously. At the same time, the "one file per machine" system providing more detailed and precise information for machine maintenance and upgrades.

Lean

The lean assembly line maps the value stream of the entire production process, with the core goals of improving efficiency, reducing costs and improving quality, and realizes continuous improvement by optimizing the production process, so as to maximize customer value.




Digitalization

The digital production system realizes the transparency and visualization of the whole process from design to production, grasps the production status in real time, optimizes resource allocation, improves decision-making efficiency, minimizes waste and errors in the production process through digitalization, and makes production more efficient and intelligent.

One file per machine

The lean manufacturability design technology and process technology, as well as the efficient implementation of manufacturing process operation standards, have realized the process quality control and management archives for each machine, making information traceability and maintenance management faster and more accurate.

Unique Features → Process Flow → Critical Control Points → Operational Standards → Process Recording → Quality Management Archives

Green

Sustainable, innovative technology for humankind

Green development is one of Yizumi's strategic orientations. In the context of the "dual carbon" goals and new energy strategies, adopting cleaner energy sources and reducing energy consumption will be the future trend for the industry and market. As a global enterprise, Yizumi continues to increase investment in innovation and energy conservation, pursuing environmentally friendly business development. This demonstrates China's responsibility and commitment to the world.

SILVER | Top 15%
ecovadis
Sustainability Rating
APR 2024

Global Service

Yizumi is continuously expanding its global footprint, accelerating the upgrading of markets and customers to meet the needs of local and neighboring countries and regions.

YIZUMI IN THE WORLD

13

Overseas Technical Service Centers

246+

Worldwide Service Network

The service network covers 96 cities in China and 150 out of China and its business covers more than 70 countries and regions.

Upgraded. Intelligent. Efficient.

Integrated with the latest rubber injection molding technology, and CBB of YIZUMI, the A3 series machines have been greatly optimized and upgraded in terms of molding performance, reliability, ease of use, maintainability and life cycle. Make it the premier choice for intelligent manufacturing of rubber parts.

Flexible | Simple | Energy-saving | Safe

YL3-V350F

A3 SERIES

Standard Configuration

① KEBA control system, 15'' touch screen, V4.3 software;
② Yizumi 4th generation energy-efficient servo technology;
③ External F.I.F.O plasticizing injection unit;
④ Top hydraulic mold separator;
⑤ GB safety standard.

Applicable Process:

IM、ITM、ICM、 TM、CM

YL3-V250F

Machine Specifications

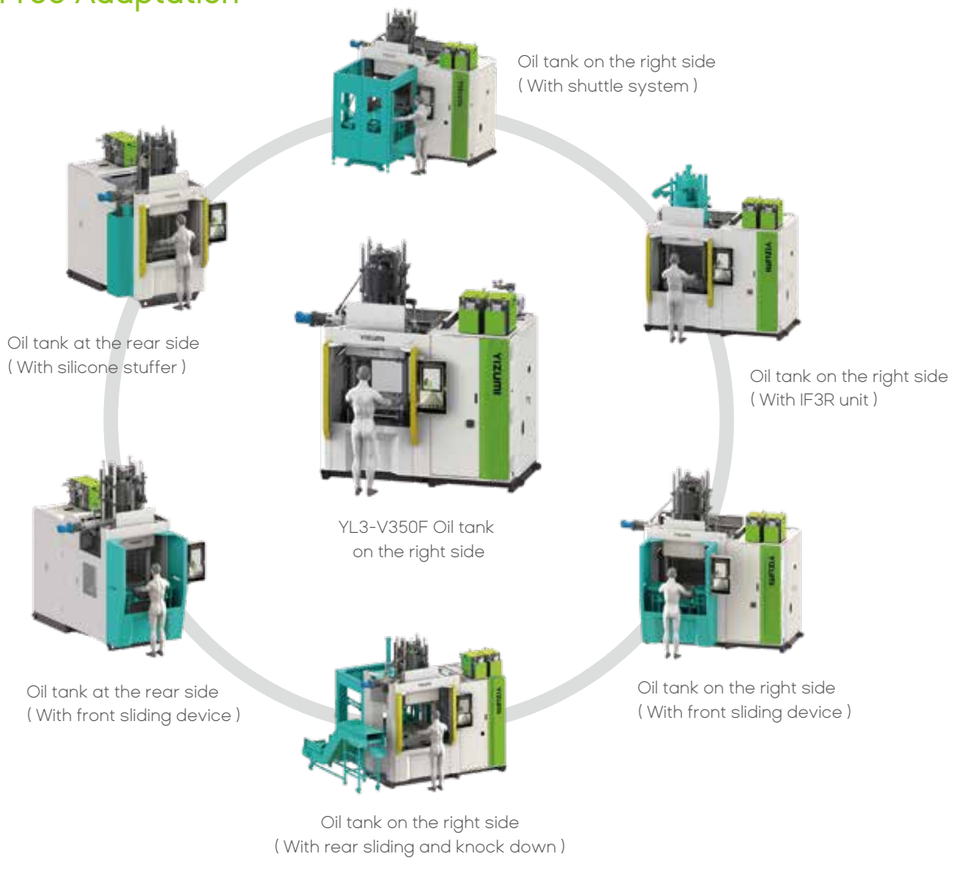
	Unit	YL3-V250F	YL3-V350F
Clamping Force	kN	2500	3500
Closing Stroke	mm	480	500
Injection Unit		EF3R-2000A	EF3R-3000B
Heating Plate Size	mm	550x550	600x650

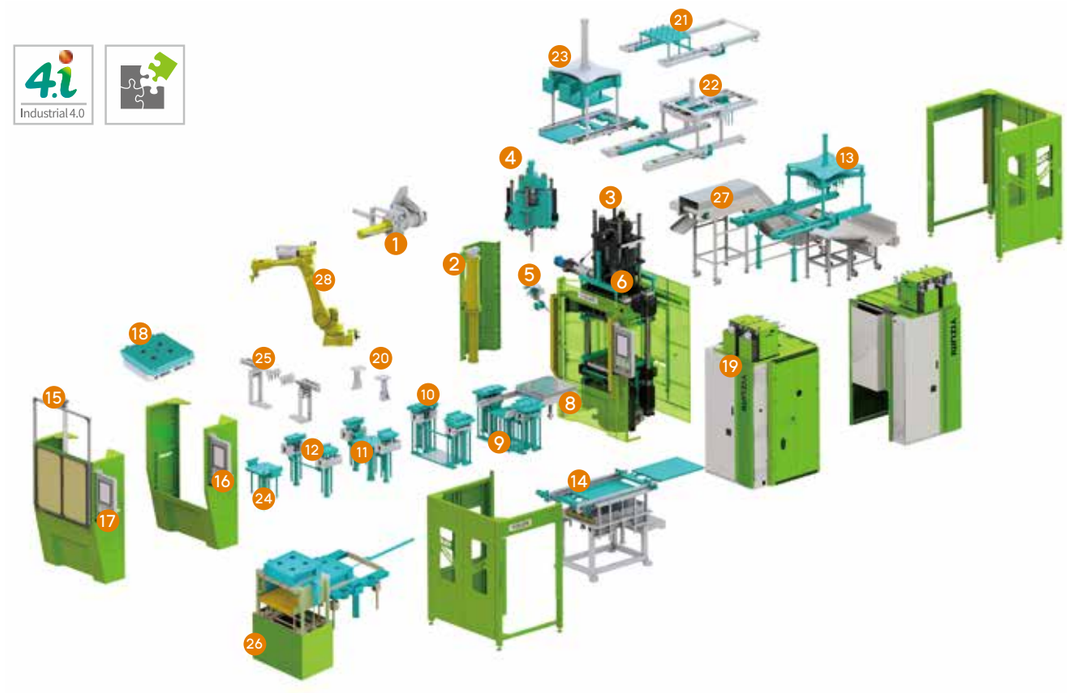
Smart and Diversified

Modular design, easier to realize customization.

- Modular design makes the A3 series vertical rubber machine more flexible and inclusive. It can reliably and quickly meet the personalized needs of global customers for different products and processes, and is the best solution for customer production.
- Machine can be easily upgraded to a more automated, intelligent system with less manpower to empower advanced production.

"Free Adaptation"





Main Option Devices

① Open gate silicone stuffer
② Side open silicone stuffer
③ EF3R unit
④ IF3R unit
⑤ Strip feeding device
⑥ Top hydraulic mold separator
⑦ Bottom hydraulic mold separator
⑧ Lower mold sliding device
⑨ 4RT
⑩ 3RT double lifter
⑪ 3RT with one ejector and one lifter
⑫ 2RT with one lifter
⑬ Knock down device
⑭ Double lower/middle mold synchronic exchange (suitable for thin mold)
⑮ Pneumatic door
⑯ B&R control system with 10" screen
⑰ B&R control system with 21" screen, V5 control and management system
⑱ CRB
⑲ CRB oil temperature control unit
⑳ Mechanical clipping device
㉑ Knock up device in clamping area
㉒ Rear sliding with half mold extraction
㉓ Non-integrated rear sliding with knock down device
㉔ 2RT with one ejector
㉕ Side core puller
㉖ Double lower/middle mold synchronic exchange (suitable for thick mold)
㉗ Conveyor
㉘ Robot arm

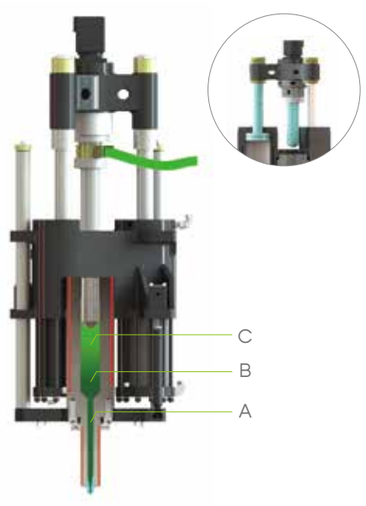
Plasticizing & Injection Unit

Leading plasticizing and injection technology with independent intellectual property rights

External-F.I.F.O is the brand-new plasticizing injection technology of Yizumi. This technology originates from the research achievements of the joint R & D center between Yizumi and Qingdao University of Science and Technology on the stress field, velocity field, and temperature field of the rubber material in the plasticizing injection system. This technology incorporates in-depth studies on reliability, usability, and maintainability in actual production processes, making it a unique and advanced technology currently available. Additonally, Yizumi also offers internal F.I.F.O plasticizing injection unit.

Internal- F.I.F.O

- The plasticizing unit is inside the injection barrel. The remained rubber compound (A) will be extruded first, and followed by (B, C); The injection sequence is A→ B→ C;
- The linear injection nozzle body retains a more optimized amount of compound and pressure field. It is more suitable for the molding of small parts and high-viscosity compounds;
- The fixed cylinder structure has low resistance, and the back pressure control is more precise;
- The lifting stroke is more than 300mm, making it easy for maintenance.

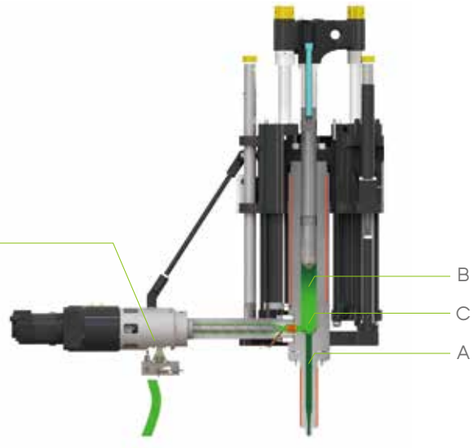


IF3R/IF3RH

External-F.I.F.O

Adopting new injection barrel design, the remained rubber compound (A) will be extruded first; The injection sequence is A→C→ B; It achieves the same self-cleaning performance as Internal-F.I.F.O in production applications, the plasticizing unit is outside the injection barrel,with 4 additional advantages:

- The design of the plasticizing unit is not limited by the injection barrel, allowing optimal parameter selection, resulting in a high plasticizing capacity and allocating more time for other simultaneous operations;
- Based on the different temperature fields of compound during plasticization and injection, the required temperature can be accurately adjusted independently without interference;
- The plasticization temperature of rubber compound can be directly detected and precisely controlled, better realizing the process conditions (optional);
- Easy to maintain and clean. The injection piston can be easily disassembled by removing a single screw, and the piston is freely aligned with injection barrel, ensuring a long service life.



EF3R

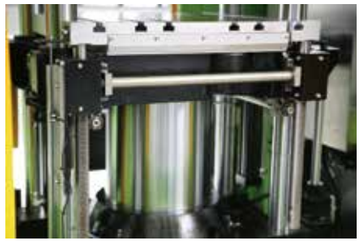
Series Code	IF3R-1500B	IF3R-3000B+	IF3R-4000C	IF3R-350A	IF3R-600B	EF3R-1000A	EF3R-2000A	EF3R-3000B	EF3R-4000B	EF3R-4000C	EF3R-5000C	EF3R-6000C
Injection Pressure/bar	2200	2000	2000	3750	3300	2600	2200	2000	1900	2500	2500	2100
Screw Diameter/mm	40	40	50	32	32	40	40	50	50	50	50	50
Size of Rubber Inlet/mm	50X20	50X20	65X20	50X20	50X20	50X20	50X20	65X20	65X20	65X20	65X20	65X20
Injection Piston Diameter/mm	80	80	100	50	65	60	65	83	86	90	90	98
YL3-V250F	○			○	○	○	●	○	○			
YL3-V350F	○	○	○	○	○	○	○	●	○	○	○	○

Clamping Unit

Long service life, light load

Joint development with German team. Adopting FEA software and reliability analysis system to optimize and upgrade the traditional two-step clamping unit, resulting in longer service life, lighter load and lower operation height.

- Main force-bearing parts have a theoretical service life of over 10 million cycles;
- The anti-loose device of the column nut makes it easy and simple for customers to adjust the minimum distance between the heating plates;
- The surface of the clamping piston is hardened, smooth and rust-free;
- Powerful, light load and sensitive control;
- Reserved with multifunctional interface for easy upgrading and modification.



Top hydraulic mold separator

- Left and right gears synchronized;
- Linear transducer, precise positioning.

Mold sliding device

- Hydraulic motor driven, reducing the space occupied by rear cylinder;
- Patented mold lifter , stable and reliable.

Clamping unit

- Multiple measures have been taken to extend the service life of the seals in main cylinder;
- The movement sensitivity of the moving platen has been comprehensively improved;
- Customers can adjust the height of the upper platen.

Bottom hydraulic mold separator

Synchronized gears on four directions, applicable for various processes.

Super "Brain" Control

The upgrade of machine intelligence simplifies operations, maintenance,and management.

Powerful processor, 1ms scan cycle, and advanced program algorithms allow the machine's rich features to be intelligently executed, supporting more automated functions and industrial 4.0 expansion.

KEBA -KePlast i2000，15''

CPU：Intel Atom processor 1910 MHz

B&R XEPIMC200,10"

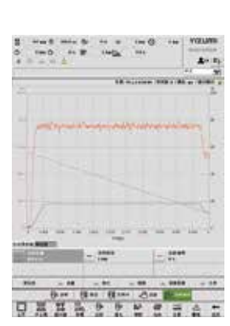
CPU: ARM Cortex-A9, 667 MHz

V4.3 Software

More than 260 upgrades, smarter and simpler

- The HMI interface is simple and user-friendly, only displaying content within the scope of permission, and supports operation with gloves;
- Simple multi-threaded simultaneous free programming, click to generate the process flow, can be up to 3-6 parallel actions;
- Quality control: real-time data recording and trend graphs for key parameters;
- Main cost statistics of the operation process ①;
- User-specific permission management, special protection for modifying vulcanization time;
- Multi-level authority ID/IC card login, record the user's information and operation content;
- Heat up in advance according to the plan and maintain temperature during intermittent shutdowns;
- Equipment maintenance plan, prompting regular spot checks and preventive maintenance;
- Rapid fault diagnosis ①, Rapid Repair of IO Point Faults ①;
- Supports OPC UA communication protocol to achieve device interconnection and system integration ②;
- Compatible with EUROMAP standards, achieving automated integration ②;
- Remote Maintenance ②.

Optional: ① Unavailable with B&R 10"，② Optional



Hydraulic Unit

Focus on performance, lifespan and energy consumption

Researching the efficiency, speed, pressure, temperature, vibration and noise of each component in the hydraulic system to reduce leakage and improve responsiveness.

Meanwhile, new generation of energy-saving technologies is being developed to accelerate the achievement of low-carbon goals, and promote green manufacturing.

Efficient Hydraulic System

- Yizumi 4th generation energy-saving servo technology boasts high energy efficiency, strong power, quick response, precise accuracy, low noise, and enhanced durability;
- Low loss hydraulic circuit;
- Highly integrated main valve block, easy adjustment and maintenance;
- Large-diameter oil path, with minimal pressure loss and low heat generation;
- World top-tier hydraulic valves boast quick response and minimal internal leakage;
- The oil temperature over high control, the hydraulic oil lifespan can be increased by 2-4 times, and the water consumption can be reduced by 90%.

Intelligent Heating Control

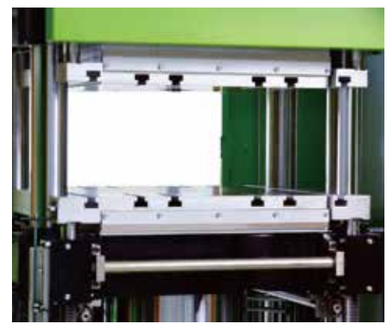
Precise temperature control and low carbon are the core of rubber injection machines

Intelligent Dual Channel Oil Temperature Control Unit

- Patented intellectual property, reducing electricity consumption by 45% and thermal oil consumption by 70%;
- Intelligent temperature control: heating and cooling efficiency can be increased by 50%.

High-efficiency Heating Plate

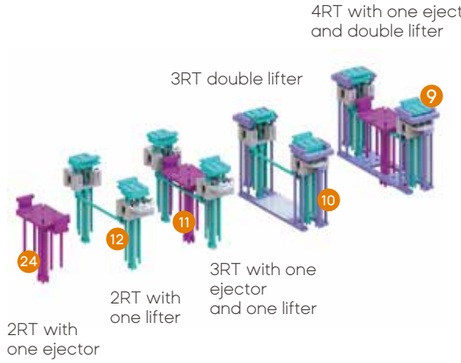
- Based on thermal field calculations, redistribute the heating power to enhance the uniformity of the mold cavity temperature;
- Standard three-zone temperature control with solid-state relay. Temperature control more flexible;
- Monitor the electric current of each heating cartridge;
- High-strength, low thermal conductivity insulation plate ensures machine precision and reduces heat radiation.

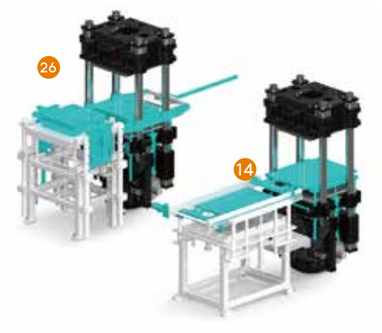


Multi-functional module

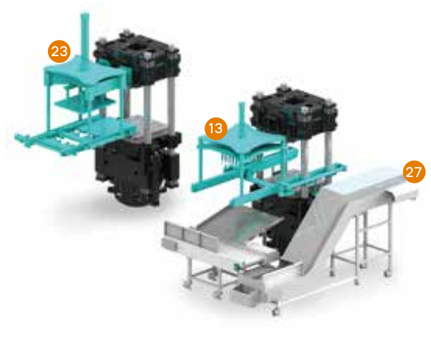
- Machine configuration with various functional modules to meet the needs of different processes from global customers;
- Provide professional configuration solutions to optimize the production process and shorten the production cycle.

4RT + Mold Tilting Device





Double lower/middle mold
synchronic exchange



Rear sliding with knock
down device

Less Manpower, Automation, Intelligence

- Work with customers to complete process lean analysis and determine reliable, economical, and efficient automation solutions;
- Provide intelligent upgraded solutions.

Level of automation	Remove runner	Take parts	Clean mold	Spray releasing agent	Place insert
Manual	Manual	Manual	Manual	Manual	Manual
Mechanization	Auto.	Manual assistance	Manual assistance	Manual assistance	Manual
Semi-automation	Auto.	Manual assistance	Auto.	Auto.	Manual assistance
Full automation	Auto.	Auto.	Auto.	Auto.	Auto.
Intelligentization	Auto.	Auto.	Auto.	Auto.	Auto.