YIZUMI伊之密



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Our company reserves the right to improve these products, which are subject to change without prior notice.
These pictures are for reference only. The actual products might look slightly different.
The data come from Yizumi's factory test. They are for reference only as they might not be the latest data. Please check the data of the actual products.



# MultiPro

## **Two-platen Multi-component Injection Molding Machine**

## Modular design for easy combination



## To be the industry's best cost-effective solution provider with leading technology

Guangdong Yizumi Precision Machinery Co., Ltd. was founded in Guangdong, China in 2002. It has spread its wings all over the world. Specializing in the high polymer material and metal forming industry, YIZUMI has currently established various commercial divisions, namely, injection molding machine, die casting machine, rubber injection machine, high-speed packaging machine and robotic automation system, etc. YIZUMI offers a one-stop solution as an equipment supplier, integrating the functions of design, research and development, manufacturing, sales and customer service.

#### **Global Operation**

YIZUMI has established 3 major production bases in Gaoli, Wusha (Shunde) and Wujiang (Suzhou) in China, achieving a comprehensive upgrade of production capacity. In addition, YIZUMI has built up production bases in America and India. And set up a number of technical service centers, R&D centers and sales outlets around the world to achieve the global operation strategy.



The total sales volume of YIZUMI in 2021 exceeded CNY 3.533 billion, up 29.97% year on year, maintaining a steady growth for four consecutive years

>>



China Gaoli Headquarter and Factory

New India Gujarat Factory

China Wusha Factory 1



China Wusha Factory 2



China Wusha Factory 3



China Wujiang Factory









U.S. Ohio Factory & Technical Center



Brazil Technical Center



Indian Gujarat Factory



Vietnam Technical Center



## 70+

Owns over 40 global sales and service representatives, business covers over 70 countries and regions

## 810 million

The export sales of YIZUMI totaled CNY 810 million in 2021

## $60000m^2$

600000m<sup>2</sup> of total worldwide manufacturing floor space

## 3000+

Over 3,000 employees globally





Germany Aachen R&D Center and Technical Center



Germany Lippstadt Technical Center



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## Innovative Manufacturer of high-end multi-component injection molding



#### Widely used in various industries:













Auto interior and

exterior trimming





Auto grill

Auto door panel

Auto tail light

Auto headlight

Auto sunroof

Appliance panel

Appliance frame

Based on advanced technology, multi-component molding is available by the combination of injection units. Yizumi MultiPro molding process can help multi-component production by just adding one processing step. Yizumi has been always in leading position in multi-component molding, providing with high-end solution.



We Walk Alongside The World





Notebook parts



Bathroom products

## Vertical turntable

## Horizontal turntable



#### **Operating principle**

After simultaneous injection by A unit and B unit, the product is ejected. Then the turntable rotates vertically by 180 degrees and the mold is closed for next-round injection. When the mold is finally opened, the molding process of two stations is completed. The rotary degree of turntable is set at 180 degrees in forward and reverse direction.



#### Feature

• Station exchange can be achieved by rotating the turntable vertically. Good compatibity and mature mold technology, with wider application.

#### **Application**

• Widely applied in the production of multi-component products, such as auto taillight, center console panel, interior and exterior parts, appliance shell, notebook parts, etc.





#### **Operating principle**

Injection unit B is moved along with the movable platen. The process of mold opening and closing is completed with the movement cooperation of movable platen and horizontal turntable. After mold closing, the injection by unit A and B is carried out as per process requirement. And the product is finally ejected by the core-pulling unit of middle plate or ejection unit after mold opening.

#### Feature

• Station exchange can be achieved by rotating the turntable horizontally. Compared with vertical turntable, horizontal turntable can help machine double the production capacity with the same clamping force setting; or largely reduce clamping force under the same production capacity as required.

#### Application

grill, door panel, center console screen, appliance panel, outer frame.

![](_page_4_Picture_18.jpeg)

![](_page_4_Picture_20.jpeg)

![](_page_4_Figure_22.jpeg)

• Widely applied in the production of multi-component products, such as auto sunroof, side window, A-pillar, B-pillar, headlight,

![](_page_4_Picture_25.jpeg)

![](_page_4_Picture_26.jpeg)

![](_page_4_Picture_27.jpeg)

## Vertical Turntable+P Type Combination

#### P type combination for two-color molding

- Description: Parallel combination for two-color molding
- Combination: H + P
- Feature : It is suitable for short nozzle center distance. The nozzle center distance is adjustable. The injection unit can be moved for centering.

![](_page_5_Picture_5.jpeg)

![](_page_5_Figure_6.jpeg)

![](_page_5_Figure_7.jpeg)

\* All the data herein come from Yizumi's factory. Please check the data of the actual customized equipment.

## Vertical Turntable+V Type Combination

#### V type combination for two-color molding

- Description: Vertical combination for two-color molding
- Combination: H + V
- Feature: It is suitable for the production of multi-component products requiring less injection volume.

![](_page_5_Figure_16.jpeg)

![](_page_5_Figure_18.jpeg)

\* All the data herein come from Yizumi's factory. Please check the data of the actual customized equipment.

![](_page_5_Picture_20.jpeg)

![](_page_5_Figure_21.jpeg)

## Vertical Turntable+W Type Combination

#### W type combination for two-color molding

- Description: Piggyback combination for two-color molding
- Combination: H + W
- Feature: It is suitable for the production of multi-component products requiring highly space-saving.

![](_page_6_Picture_5.jpeg)

![](_page_6_Figure_6.jpeg)

								DPI	M Se	erie	s Tv	vo
Injection u	nit	19	90		295			420			604	
Screw		22	26	30	35	40	35	43	48	43	48	5
H type Injectio	on Unit										١	N 1
	43											
895	48											
	53											
	53											
1269	60											
	68											
	60											
1885	68											
	76											
	68											
2695	76											
	84											
	76											
3330	84											
0000	92											
	84											
4800	92											
	100											
6150	92											
	100											
	108											
9000	100											
	108											
	116											
12050	116											
	125											
	135											
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18500	145											
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23750	155											
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31750	165											
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75500	230											
	245											
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100000	245											
	260											
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\* All the data herein come from Yizumi's factory. Please check the data of the actual customized equipment.

X All the data herein come from Yizumi's factory. Please check the data of the actual customized equipment.

![](_page_6_Figure_11.jpeg)

n unit is the same as that of DP injection unit.

## Vertical Turntable+L Type Combination

#### L type combination for two-color molding

- Description: L-shaped combination for two-color molding
- Combination: H + L
- Feature: Highly flexible, secondary injection unit is easy to disassemble and move.

![](_page_7_Picture_5.jpeg)

![](_page_7_Figure_6.jpeg)

![](_page_7_Figure_7.jpeg)

st All the data herein come from Yizumi's factory. Please check the data of the actual customized equipment.

## Vertical Turntable+W-V Type Combination

#### W-V type combination for three-color molding

- Description: Piggyback/Vertical combination for three-color molding
- Combination: H+W+V
- Feature: Small floor area and compact layout.

		D1M	Series	Two-	p
Injection unit	1	90		295	
Screw	22	26	30	35	
				Vi	ty
UN500D1M					
UN700D1M					
UN900D1M					
UN1100D1M					
UN1200D1M					
UN1300D1M					
UN1400D1M					
UN1600D1M					
UN1850D1M					
UN2100D1M					
UN2400D1M					
	Speci	fication of ma	ain and s	econdar	y

![](_page_7_Figure_15.jpeg)

\* All the data herein come from Yizumi's factory. Please check the data of the actual customized equipment.

![](_page_7_Picture_18.jpeg)

![](_page_7_Figure_19.jpeg)

v injection unit is the same as that of H+W combination. type injection unit, please refer to this table.

laten Multi-component IMM													
		420			604		895						
40	35	43	48	43	48	53	43	48	53				
pe injection unit													
/ injection type inje	on unit i ction uni	s the sar t, please	ne as tha refer to th	at of H+V nis table.	V combir	nation.							

## Vertical Turntable+P-L Type Combination

#### P-L type combination for three-color molding

- Description: Parallel/L-shaped combination for three-color molding
- Combination: H+P+L
- Feature: Flexible configuration and wide application.

![](_page_8_Picture_5.jpeg)

![](_page_8_Figure_6.jpeg)

![](_page_8_Figure_7.jpeg)

% All the data herein come from Yizumi's factory. Please check the data of the actual customized equipment.

## Vertical Turntable+P-P Type Combination

#### P-P type combination for three-color molding

- Description: Two set of parallel combination for four-color molding
- Combination: P+P
- Feature: Support customization as per demand.

![](_page_8_Figure_14.jpeg)

![](_page_8_Figure_15.jpeg)

\* All the data herein come from Yizumi's factory. Please check the data of the actual customized equipment.

![](_page_8_Picture_18.jpeg)

![](_page_8_Figure_19.jpeg)

## Horizontal Turntable+M-Type Combination

#### Two-way injection for two-color molding

- Description: Horizontal two-way injection molding
- Combination: H+M
- Feature: It is suitable for the production of large multi-component products, innovative application with horizontal turntable.

![](_page_9_Picture_5.jpeg)

![](_page_9_Figure_6.jpeg)

#### Two-way injection for three/four-color molding

- Description: Two-way injection molding with piggyback injection unit
- Combination: H+M+W
- Feature: It can be combined flexibly for the production of large-scale products, with multi-component or multi-color requirement.

![](_page_9_Picture_11.jpeg)

![](_page_9_Figure_12.jpeg)

\* All the data herein come from Yizumi's factory. Please check the data of the actual customized equipment.

## **Injection unit**

#### **①** Proportional valve-controlled back pressure

• Precise control to enhance injection stability and provide necessary conditions for excellent plasticizing effect.

#### **③** Excellent injection accuracy

• Repeatability of product weight up to 3‰.

#### **5** Modular combination design

• According to the process requirement of different products, injection units can be combined flexibly, with various software functions, making customization achievable.

#### **⑦** High mixing anti-stick screw design

• Screw design with optimized mixing parameters is adopted to ensure efficient plasticization, but also reach the better mixing effect and eliminate stickiness, yellowing and blackening.

#### **2** New-generation PID temperature control

• With adaptive PID temperature control, the static temperature control accuracy reaches up to  $\pm 0.5^{\circ}$ C.

#### **④** Single cylinder injection structure

• Excellent cylinder sealing, high injection speed.

#### **6** Adjustable nozzle center distance

• The nozzle center distance between the injection units is adjustable, and a standard adjustable range is specific for the machine of different tonnages, to better match with the molds of various center distances. And the injection unit with automatic centering function also can be used for the production of single-color products.

![](_page_10_Picture_15.jpeg)

![](_page_10_Picture_16.jpeg)

![](_page_10_Picture_17.jpeg)

Proportional valve-controlled back pressure

control

![](_page_10_Picture_20.jpeg)

Modular combination of injection unit

Adjustable nozzle center distance

![](_page_10_Picture_25.jpeg)

Excellent injection accuracy

![](_page_10_Picture_29.jpeg)

High mixing anti-stick screw design

![](_page_10_Picture_31.jpeg)

Single-cylinder injection structure

![](_page_10_Picture_33.jpeg)

Mobile centering function

#### High injection repeatability

Based on European single-cylinder injection molding technology, it brings low injection inertia and high leak-proof performance of cylinder; also combined with high mixing anti-stick screw and precise temperature control, injection stability is further enhanced, making the repeatability of product weight up to 3‰.

![](_page_11_Picture_0.jpeg)

## **Clamping unit**

![](_page_11_Picture_2.jpeg)

![](_page_11_Picture_3.jpeg)

![](_page_11_Picture_4.jpeg)

![](_page_11_Picture_5.jpeg)

![](_page_11_Picture_6.jpeg)

![](_page_11_Picture_7.jpeg)

#### **①** Digital closed-loop positioning control technology (DCPC)

• Turntable driven by servo motor is controlled by DCPC technology, with high rotating speed, smooth operation without impact, accurate positioning and repeatability up to ±0.005°.

#### **③** Proportional valve-controlled mold opening and closing

• Improve the repeatability of mold opening and the stability of low-pressure mold protection.

#### **5** Synchronizing turntable

• Whole series machine is standard with synchronization function between mold opening & closing and turntable rotary, which can be set as per requirement, beneficial for efficiency improvement.

#### **⑦** Rotating shaft module (Optional)

• Movable platen is optional with a rotating shaft module, to meet the requirements of the in-mold core rotating process for two-color products.

#### Integrated turntable

- Integrated design, high rigidity, large bearing capacity and compact structure;
- The turntable is standard with servo motor with high precision and rotation speed. It can be equipped with multiple groups of water-oil-gas diversion systems at high flow

![](_page_11_Picture_21.jpeg)

![](_page_11_Picture_22.jpeg)

![](_page_11_Picture_23.jpeg)

![](_page_11_Picture_24.jpeg)

![](_page_11_Picture_25.jpeg)

#### **2** Automatic flow-distribution shaft system

• Turntable is applied with German automatic flow distribution shaft system, with double layer structure for oil-water separation. It offers centralized management for oil, water and gas. Multi-angle rotary of station is also available by 0°, 90°, 120°, 180°, 240° or 360°, no wear and no tangling for pipeline, wider application.

#### **④** Turntable positioning pin

• Effectively improve the positioning accuracy of the turntable.

#### **6** High rigidity and precise guiding

• The L-shaped guide rail designed considering guiding and gravity center support, with guide accuracy of 0.05mm, effectively improving the movement stability and extending mold service life.

#### **8** Custom-designed mold positioning

• Custom-designed mold positioning is available as per requirement. And center distance can be adjusted by replacing the positioning ring, with wider application scope.

## **Control** system

#### **Precise control, reliable and stable,** user-friendly design

Austrian KEBA controller is standard for two-platen multi-component injection molding machine. Controller design is reliable, stable, safe and user-friendly, applicable to various multi-component molding solutions, improving customer experience.

KEBA Controller 🕨

- Dual CPU control, 1ms scanning cycle and high reliability to ensure that the operation time of each injection unit is limited to 1ms.
- Synchronous communication technology and servo closed-loop positioning technology to achieve more accurate turntable positioning.
- The latest generation of PID closed-loop temperature control technology can obtain more accurate temperature control.
- USB port with storage extension can be served as mold data memory, easy and convenient.
- Memory functions of alarming and process parameter changing.
- Curve recording function for process data changes.
- Process Deviation Procedure (PDP) and Statistical Process Control(SPC).

- Multi-level user access management and data protection ensure data security.
- Real-time remote control and operation.

\*a\*a\*c\*==

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seas Estates

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- Online multi-language, easy for language switching.
- Fast input of icons and virtual keys.
- Quick set of screen and easy set of process parameter.
- Expandable I/O modules to integrate more functions such as built-in hot runner control and sequence valve function.
- Communication ports for printers, auxiliaries and automation • can be expanded to OPC/UA communication interfaces.

![](_page_12_Figure_18.jpeg)

![](_page_12_Figure_19.jpeg)

Servo control of turntable

The electric servo control system of the turntable includes industrial controller, servo driver, servo motor, reducer, high-resolution precision detector and turntable. The industrial controller releases the control signal to the servo driver for performing closed-loop positioning, leading smooth rotation and accurate positioning of turntable.

▼ Schematic diagram of servo control for turntable

## **User-friendly design**

• Using the ergonomic rotary cabinet of fool-proof design, clear, concise and beautiful interface ensures easy and convenient operation.

> ① Ergonomic rotary cabinet ② Reserve plug for auxiliaries

![](_page_12_Picture_26.jpeg)

![](_page_12_Picture_27.jpeg)

![](_page_12_Figure_30.jpeg)

Special controller interface

![](_page_12_Figure_32.jpeg)

## Horizontal turntable two-way injection molding

### Modular design, for easy combination.

Horizontal turntable is suitable for the molding of long or large two-color products. It can help machine largely reduce clamping force comparing with vertical turntable. Also horizontal turntable can cooperate with the third and the fourth injection units (W type, L type, V type, etc.) in multi-component molding, providing more cost-effective solution.

![](_page_13_Picture_3.jpeg)

#### Middle plate of horizontal turntable

![](_page_13_Picture_5.jpeg)

- Core Hydraulic ejector Electronic signal Cooling water
- Steam

![](_page_13_Picture_8.jpeg)

flow distribution shaft system and double laver structure for oil-water separation, integrated management for oil, water and gas is achievable. Clockwise rotation is also available by 90°, 180° or 360°, no tangling for pipeline.

![](_page_13_Picture_10.jpeg)

Structure: Two-platen IMM + two injection units + horizontal turntable and middle plate

## > Technical advantages

#### **Compared with traditional stack molds**

- Using two independently controlled injection units to better control injection volume
- High flexibility, two different molds can be used synchronously
- Reduce length of hot runner for lower cost
- Improved hot runner balance for faster debugging and startup
- Reduce dwell time of raw materials in the barrel
- Less raw material degradation and better quality control

#### Compared with machine with vertical turntable

- More flexible, applicable to the production of large two-color parts
- With double cavities and output under the same tonnage, more economical
- Nearly half of the required machine tonnage under the same production capacity requirement, less power consumption and lower cost.
- Provide innovative solutions such as cubic molds using the horizontal turntable

## Independent electric injection unit

![](_page_13_Picture_26.jpeg)

Independent L type electric injection unit

## Independent modular design

With modular design, it can be combined with hydraulic machine to be an oil-electric hybrid multi-component injection molding machine; or combined with all-electric machine to be an all-electric multi-component injection molding machine. Flexible combination like L type, W type and V type combination is available for wider application.

Note: Its specific structure is subject to the actual design. The base rotation function is optional.

#### Compact design, easy to install and store

• Using all-electric control for injection, plasticizing and injection carriage, compact structure and easy to install and store.

#### Servo control

• High injection repeatability, fast response and more stable molding.

#### **Flexible combination**

• Can be combined as L type or V type injection unit, adaptable to different molds.

![](_page_13_Picture_38.jpeg)

Independent V type electric injection unit

#### **Base rotation (Optional)**

• Base rotation can help offer more space for mold loading, unloading and maintenance; Secondary injection unit can also be combined with the main injection unit through base rotation by 180 degrees to achieve sandwich molding.

#### **Clean and environmental friendly**

 All-electric control is cleaner than the hydraulic control, especially suitable for the clean production with lower energy consumption.

#### **High compatibility**

• It can be compatible with different brands or different tonnages machine to achieve two-color or multi-color molding, low operating cost.