让中国装备技术与世界同步 WE WALK ALONGSIDE THE WORLD



# **FF Series Electric Injection Molding Machine**

(90T-460T)

#### 广东伊之密精密注压科技有限公司

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### **About FF Series**

### Development Background

#### **Upgrade of industry and product**

While the industrial upgrading in China requires high-quality, high-precision, and high-efficiency equipment, the end users demand products with higher quality, better appearance, and more reliability.

#### **Strong customer base**

With the in-depth understanding of customer pain points and demand which based on tens of thousands of customers over time, we have set up a professional team to develop more cost-effective electric injection molding machines.

#### Times call for domestically manufactured alternatives.

While the Japanese products dominate the market at present, customers desire to have domestically manufactured alternatives to the imports for a more prompt comprehensive support and the best value for money.

#### **Automation and intellectualization are the trends**

The growing demands for industrial automation and intellectualization ask for better products to increase customer value. Yizumi responds to this need with the new generation FF series electric injection molding machines.

### Core value Proposition

Yizumi is committed to developing a product that meets the technology and quality standards of Japanese electric injection molding machines, provides more cost-effective experiences, and better fulfills customers' expectations of return on investment;

#### **Upgrade from conventional models**

Upgrading to a level that has higher requirements than conventional machines and allows customers to easily realize the automation and intellectualization while improving quality consistency and efficiency.

#### **Upgrade to meet application requirements**

Compared to conventional models, the new electric series of injection molding machines enhances the performance in all aspects to meet the optimized requirements (e.g. Thickness, precision, and complexity) of more stringent core elements of products.

### Critical Success Factors

#### Warranted by the overall strength of Yizumi

Yizumi has the powerful capacity in HW/SW development, competent R&D teams, and rigorous quality control system.

#### In-depth industrial know-how and collaboration

With years of accumulated knowledge in machine designs, Yizumi is committed to creating the electric injection molding machines that meet our customer's product needs through collaboration with international top-level expert teams.

#### Advanced integrated project development (IPD) process assurance

The rigorous and comprehensive IPD process established based on the in-depth understanding of customer needs and pain points ensures a high degree of customer satisfaction.

### FF Series Electric Injection Molding Machine

### **Three Major Customer Value Propositions:**







Yizumi is committed to developing a product that meets the technology and quality standards of Japanese electric injection molding machines, provides more cost-effective experiences, and better fulfills customers' expectations of return on investment. Upgrading to a level that has higher requirements than conventional machines and allows customers to easily realize the automation and intellectualization while improving quality consistency and efficiency. Performance improvement in all aspects in comparison with conventional models to meet the optimized requirements (e.g. Thickness, precision, and complexity) of more stringent core elements of products.



\*The data above are derived from Yizumi's lab results and are for your reference only;

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### Three Major Customer Value Propositions

### **Stability & Precision:**

### ► High stability of the Tie-Bar Free (TBF) technology

Contact-free tie bars allow fast and stable mold opening/closing and significantly reduce energy consumption, causing no pollution to the work environment

#### ► Highly stable three linear guider support (LGS) technology

High precision linear guide supports significantly reduce the friction of the plasticizing unit and improves the pressure stability of plasticizing and injection, resulting in stable product quality. In the meantime, the linear guide effectively reduces energy consumption and enhances the smoothness of mold opening/closing

#### High-precision sensor technology

The use of the world's leading position sensors with 2 million CPR resolution delivers incredible stability in position and speed control

#### ► Fully automatic lubrication system

While the lubricating grease works as the blood of injection molding machine, the fully automatic maintenance-free lubrication system ensures the long-term operation stability of the machine



### **Efficiency & Flexibility:**

#### ► Double the injection speed

Compared with conventional machines, doubling the injection speed does more than shortening the injection time. It brings more possibilities to product design and allows customers to enjoy greater flexibility in terms of wall thickness, sprue size and precision of the molded parts

#### ▶ Plasticizing speed is significantly increased

The increase in plasticizing speed reduces the cycle time while delivering enhanced production stability

#### ► Increase mold opening and closing speed by 50%

Dry cycle has a great importance to customers as the faster dry cycle results in higher productivity

#### ► Multi-axis synchronization

As the mold opening/closing, injection, plasticizing, and ejection are driven by separate motors, the easy synchronization of processes reduces the cycle time of the production

#### ► Built-in hydraulic pump station

Support a variety of molding process with great flexibility and efficiency

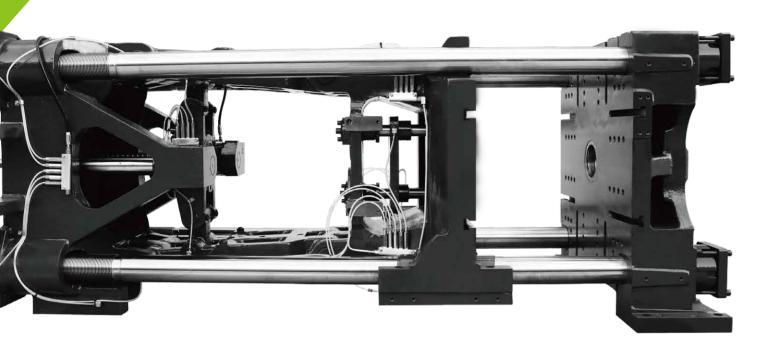
### **Automation & Intellectualization:**

- ▶ Optimized automation interface for centralized control of integrated robot, hot runner, and auxiliary
- ▶ SMART mold protection to ensure the safe use of high-value molds in an unmanned operating environment
- ▶ The high stability and consistency of the machine process parameters allow unattended operation for an extended time
- ▶ Full data monitoring and extraction provide a solid foundation for intellectualization
- ▶ With accurate mold opening and full-featured second mold closing and opening, the automation of special process is fully warranted

- ▶ The intelligent sorting system automatically removes defect parts to ensure the production quality
- ► Combined with MEC, the intelligent Statistics Process Control (SPC) helps to achieve automation and informationization
- ▶ The intelligent clamping force management system ensures the consistency of the clamping force in the production process
- ► SPH (Smart Mold Pressure Hold)
- ► SIC (Smart Injection Control)

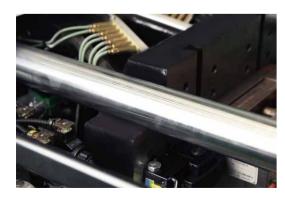


## **Clamping Unit**



### High stability of the TBF technology

- ► The clamping unit adopts the TBF (Tie Bar Free) technology for easy operation and maintenance
- ► Keep the mold area clean to prevent product contamination



# Linear rail moving design for mold opening/closing

- ► The directional accuracy reaches **0.02mm**
- ► Fast and steady mold opening/closing speed.

  Repeatability of mold opening/closing positions

  ±0.03mm



### High-rigid design of moving platen

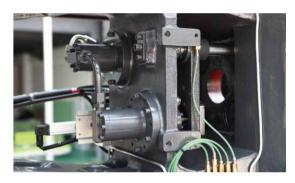
- ► Offer great rigidity and uniform distribution of force
- ► Suitable for injection molding with precision molds
- ► High repeatability of mold-open end position
- ► Platen parallelism (with load) **<0.05mm**(FF90-240)
- ► Platen parallelism (with load) **< 0.08mm**(FF300-400)
- Faster dry cycle





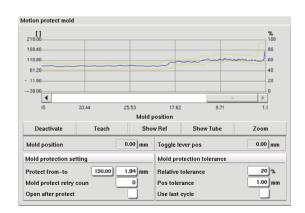
#### **Dual-cylinder parallel ejection design**

- ▶ Uniform force application for mold release
- ► Servo motor driven ejection is optional
- ► Can achieve functions such as various modes of synchronized ejection and ejector retraction, gate cutting inside the mold, etc.
- Accuracy of ejection position up to 0.2mm, conducive to product accuracy and repeatability.



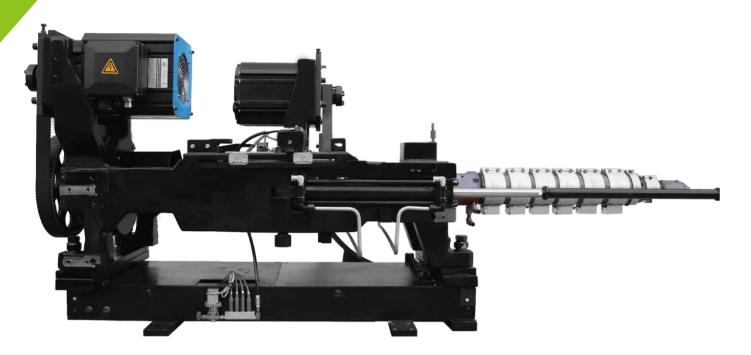
### Unique "SMART" mold protection feature

- ► Can detect very small obstacles and resistance
- ► Reduce the extent of mold damage when there are foreign objects in the mold cavity or faulty operation occurs



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# **Injection** Unit



### The use of advanced LGS (Linear Guide Support) technology

► Integrated design enhances the overall rigidity of the injection unit

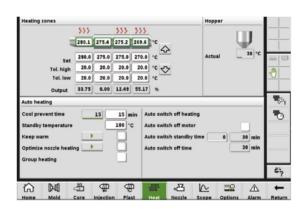
No unnecessary friction. Fast forward and backward





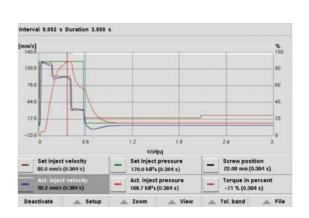
#### **Dedicated screws for different materials**

- ► DIN standards for barrel unit size, processing accuracy, surface finish, and material selection
- ► Increase the repeatability of injection



### **Temperature closed loop control**

► Static deviation: ±0.5°



# **Closed loop injection pressure control technology**

- ▶ Provide more accurate control for more stable, reliable and precise molding.
- ► The stability precision of injection pressure and holding pressure is at ±0.1Mpa

### **Electrical Control System**

#### **Using European KEBA2000 Controller**

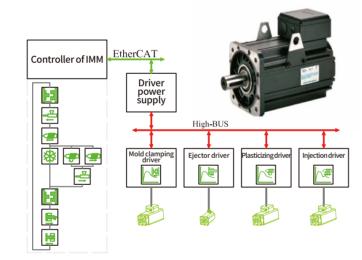
- ► The powerful system is easy to operate and ideal for the high-performance solutions for electric injection molding machines
- ▶ 12-inch HD color touchscreen display with clear and neat screen layout
- ► Standard Process quality control (PDP), and Statistical process control (SPC) features
- ► Auto-sorting function
- ► Oscilloscope with chart display function to record the curve of process data change
- Centralized (networked) real-time remote operation and control
- ► The flexible I/O expansion modules allow integration of more features as needed and are programmable

# Unique servo direct control (SDC) technology

- ► Process algorithm independently developed by Yizumi for the servo drive
- ▶ Four servo motors control injection, plasticizing, clamping, and ejection independently, allowing faster feedback, more responsive control, and improved control accuracy
- ► More precise control of speed, position and pressure to meet the requirements of precision equipment



- ► Advanced HW and SW systems to support Industry 4.0
- ► 1ms scan cycle
- ▶ 16 levels of user access management to ensure data security







# All-metal baseboard for the electric control unit

► Galvanized mounting plate for better cooling and anti-interference capacity

### **Standardized wiring layout**

▶ Neat wiring and standardized interface layout for easy operation

### **Modular Injection Unit Selections**

# The modular injection unit allows flexible combination with a number of options to quickly meet various application needs:

- ▶ 90T~460T clamping force, 8 clamping modes
- ► 10 injection unit configurations, screws range Ф22~Ф92mm
- ► Each clamping mode has the option to select from 3 types of injection units and 9 types of barrel units
- ► Cover injection speeds of 160/200/300/350 (mm/s)

Injection unit	IU170	IU200	IU320	IU430	IU670	IU930	IU1350	IU1930	IU2700	IU3700
FF90	22,26,30	26,30,35	30,35,40							
FF120		26,30,35	30,35,40	35,40,43						
FF160			30,35,40	35,40,43	40,48,53					
FF200				35,40,43	40,48,53	48,53,60				
FF240					40,48,53	48,53,60	53,60,68			
FF300						48,53,60	53,60,68	60,68,76		
FF380							53,60,68	60,68,76	68,76,84	
FF460								60,68,76	68,76,84	76,84,92









3C products

Automotive parts

Medical consumables

Home appliances

### **FF**90

					Cla	mping ι	ınit					
Clamping force	kN					900						
Mold opening/ closing stroke	mm		320									
Space between tie bars	mm		420x420									
Minimum mold size	mm		294x294									
Mold thickness	mm		150-410									
Ejector stroke	mm		80									
Ejector force	kN					22.6						
Number of ejectors						5						
					lnj	ection u	nit					
Model of injection un (standard/optional)	it	IL	J170/IU170	Oh	IU	J200/IU200	Oh	IU320/IU320h				
International specific	ation		165		198			317				
		А	В	С	А	В	С	А	В	С		
Screw diameter	mm	22	26	30	26	30	35	30	35	40		
Screw L/D ratio	I/D	22	22	22	22	22	20	24	20	20		

Model of injection un (standard/optional)	it	IL	J170/IU170	)h	IU	IU320/IU320h				
International specific	ation	165			198			317		
		А	В	С	А	В	С	А	В	С
Screw diameter	mm	22	26	30	26	30	35	30	35	40
Screw L/D ratio	L/D	22	22	22	22	22	20	24	20	20
Screw stroke	mm	115			140			165		
Stroke-bore ratio		5.23	4.4	3.83	5.4	4.7	4.0	5.5	4.7	4.1
Shot volume	cm <sup>3</sup>	44	61	81	74	99	135	117	159	207
Shot weight (PS)	g	40	56	75	68	91	124	107	146	191
Injection pressure	МРа	377	270	203	266	200	147	272	200	153
Holding pressure	МРа	302	216	162	213	160	118	218	160	123
Injection speed (standard/optional)	mm/s		200/350		200/350			200/350		
Injection rate (standard/optional)	cm³/s	76/134	106/186	141/248	106/186	141/248	192/337	141/248	192/337	251/440
Screw speed	rpm		400			400			400	
Nozzle contact force	kN	20			20			30		
Heating power	kW		4.8		4.8 5.5			6.9/7.8		

 $<sup>\</sup>frak{MThe}$  data above are measured according to factory testing standards and are for your reference only.

# FF120

					Cla	mping ι	ınit				
Clamping force	kN					1200					
Mold opening/ closing stroke	mm				370						
Space between tie bars	mm		480x480								
Minimum mold size	mm		336x336								
Mold thickness	mm					150-480					
Ejector stroke	mm					100					
Ejector force	kN					40					
Number of ejectors						5					
					lnj	ection u	nit				
Model of injection uni (standard/optional)	it	IU200/IU200h			IU320/IU320h			IU430/IU430h			
International specification			198		317				427		
		Α	В	С	Α	В	С	Α	В	С	
Screw diameter	mm	26	30	35	30	35	40	35	40	43	
Screw L/D ratio	L/D	22	22	20	24	20	20	24	20	20	
Screw stroke	mm		140		165			170			
Stroke-bore ratio		5.4	4.7	4.0	5.5	4.7	4.1	4.9	4.3	4.0	
Shot volume	cm³	74	99	135	117	159	207	164	214	247	
Shot weight (PS)	g	68	91	124	107	146	191	150	197	227	
Injection pressure	MPa	266	200	147	272	200	153	261	200	173	
Holding pressure	MPa	213	160	118	218	160	123	209	160	138	
Injection speed (standard/optional)	mm/s		200/350			200/350			200/300		
Injection rate (standard/optional)	cm³/s	106/186	141/248	192/337	141/248	192/337	251/440	192/289	251/377	290/436	
Screw speed	rpm	400			400			400			
Nozzle contact force	kN		20		30			40			
Heating power	kW	4.8	5	.5	6.9/7.8			9/10.1			

 $<sup>\</sup>fint \$$  The data above are measured according to factory testing standards and are for your reference only.

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# FF160

					Cla	mping ເ	ınit				
Clamping force	kN					1600					
Mold opening/ closing stroke	mm				430						
Space between tie bars	mm					530x530					
Minimum mold size	mm		371x371								
Mold thickness	mm		175-520								
Ejector stroke	mm		125								
Ejector force	kN		40								
Number of ejectors			5								
			Injection unit								
Model of injection un (standard/optional)	it	IU	1320/IU320	0h	IL	1430/IU430	)h	IU670/IU670h			
International specification		317			427				668		
		Α	В	С	Α	В	С	А	В	С	
Screw diameter	mm	30	35	40	35	40	43	40	48	53	
Screw L/D ratio	L/D	24	20	20	24	20	20	22.3	20	20	
Screw stroke	mm		165		170			205			
Stroke-bore ratio		5.5	4.7	4.1	4.9	4.3	4.0	5.1	4.3	3.9	
Shot volume	cm <sup>3</sup>	117	159	207	164	214	247	258	371	452	
Shot weight (PS)	g	107	146	191	150	197	227	237	341	416	
Injection pressure	МРа	272	200	153	261	200	173	259	180	148	
Holding pressure	МРа	218	160	123	209	160	138	207	144	118	
Injection speed (standard/optional)	mm/s	200/350			200/300			160/250			
Injection rate (standard/optional)	cm³/s	141/248 192/337 251/440			192/289	251/377	290/436	201/315	290/453	353/552	
Screw speed	rpm		400		400			350			
Nozzle contact force	kN		30		40			40			

9/10.1

6.9/7.8

kW

Heating power

## FF200

					Cla	mping ι	ınit				
Clamping force	kN					2000					
Mold opening/ closing stroke	mm				480						
Space between tie bars	mm		580x580								
Minimum mold size	mm		406x406								
Mold thickness	mm					200-560					
Ejector stroke	mm					125					
Ejector force	kN					40					
Number of ejectors			9								
			Injection unit								
Model of injection uni (standard/optional)	it	IU430/IU430h				J670/IU670	Oh	IU930			
International specification			427			668			933		
		А	В	С	А	В	С	Α	В	С	
Screw diameter	mm	35	40	43	40	48	53	48	53	60	
Screw L/D ratio	L/D	24	20	20	22.3	20	20	22	20	20	
Screw stroke	mm		170		205			235			
Stroke-bore ratio		4.9	4.3	4.0	5.1	4.3	3.9	4.9	4.4	3.9	
Shot volume	cm³	164	214	247	258	371	452	425	518	664	
Shot weight (PS)	g	150	197	227	237	341	416	391	477	611	
Injection pressure	MPa	261	200	173	259	180	148	219	180	140	
Holding pressure	MPa	209	160	138	207	144	118	176	144	112	
Injection speed (standard/optional)	mm/s		200/300			160/250			160		
Injection rate (standard/optional)	cm³/s	192/289	251/377	290/436	201/315	290/453	353/552	290	353	452	
Screw speed	rpm		400		350			320			
Nozzle contact force	kN		40		40			60			
Heating power	kW		9/10.1		10.9/12.1			14.4/16.8			

 $<sup>\</sup>fint \$$  The data above are measured according to factory testing standards and are for your reference only.

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10.9/12.1

 $<sup>\</sup>fint \%$  The data above are measured according to factory testing standards and are for your reference only.

# FF240

		Clamping unit
Clamping force	kN	2400
Mold opening/ closing stroke	mm	530
Space between tie bars	mm	630x630
Minimum mold size	mm	441x441
Mold thickness	mm	220-600
Ejector stroke	mm	150
Ejector force	kN	55.6
Number of ejectors		

			Injection unit								
Model of injection un (standard/optional)	it	IU	1670/IU670	)h	IU930			IU1350			
International specific	ation	668			933			1349			
		А	В	С	А	В	С	А	В	С	
Screw diameter	mm	40	48	53	48	53	60	53	60	68	
Screw L/D ratio	L/D	22.3	20	20	22	20	20	22.6	20	20	
Screw stroke	mm	205			235			265			
Stroke-bore ratio		5.1	4.3	3.9	4.9	4.4	3.9	5.0	4.4	3.9	
Shot volume	cm <sup>3</sup>	258	371	452	425	518	664	585	749	962	
Shot weight (PS)	g	237	341	416	391	477	611	538	689	885	
Injection pressure	МРа	259	180	148	219	180	140	231	180	140	
Holding pressure	МРа	207	144	118	176	144	112	185	144	112	
Injection speed (standard/optional)	mm/s		160/250		160			160			
Injection rate (standard/optional)	cm³/s	201/315	290/453	353/552	290	353	452	353	452	581	
Screw speed	rpm	350			320			300			
Nozzle contact force	kN	40			60			60			
Heating power	kW	10.9/12.1			14.4/16.8			16.6/19			

<sup>\*\*</sup>The data above are measured according to factory testing standards and are for your reference only.

# FF300

	_	_	_	_	_	_	_	_	_		
					Cla	ımping ι	ınit				
Clamping force	kN					3000					
Mold opening/ closing stroke	mm				610						
Space between tie bars	mm					720x720					
Minimum mold size	mm		504x504								
Mold thickness	mm		250-650								
Ejector stroke	mm		150								
Ejector force	kN		55.6								
Number of ejectors					13						
					lnj	ection u	nit				
Model of injection un (standard/optional)	it	IU930			IU1350			IU1930			
International specification			933			1349			1928		
		А	В	С	Α	В	С	Α	В	С	
Screw diameter	mm	48	53	60	53	60	68	60	68	76	
Screw L/D ratio	L/D	22	20	20	22.6	20	20	22.6	20	20	
Screw stroke	mm		235		265			295			
Stroke-bore ratio		4.9	4.4	3.9	5.0	4.4	3.9	4.9	4.3	3.9	
Shot volume	cm³	425	518	664	585	749	962	834	1071	1338	
Shot weight (PS)	g	391	477	611	538	689	885	767	986	1231	
Injection pressure	MPa	219	180	140	231	180	140	231	180	144	
Holding pressure	МРа	176	144	112	185	144	112	185	144	115	
Injection speed (standard/optional)	mm/s		160			160			160		
Injection rate (standard/optional)	cm³/s	290	353	452	353	452	581	452	581	726	
Screw speed	rpm	320			300			250			
Nozzle contact force	kN		60		60			60			
Heating power	kW		14.4/16.8		16.6/19			22.2/24.6			

 $<sup>\</sup>fint \$$  The data above are measured according to factory testing standards and are for your reference only.

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# FF380

					Cla	mping ι	ınit				
Clamping force	kN					3800					
Mold opening/ closing stroke	mm					710					
Space between tie bars	mm					820x820					
Minimum mold size	mm		574x574								
Mold thickness	mm		290-720								
Ejector stroke	mm					200					
Ejector force	kN					99					
Number of ejectors						13					
			Injection unit								
Model of injection un (standard/optional)	it		IU1350		IU1930			IU2700			
International specific	ation	1349			1928				2695		
		А В С			А	В	С	А	В	С	
Screw diameter	mm	53	60	68	60	68	76	68	76	84	
Screw L/D ratio	L/D	22.6	20	20	22.6	20	20	22.3	20	20	
Screw stroke	mm		265		295				330		
Stroke-bore ratio		5.0	4.4	3.9	4.9	4.3	3.9	4.9	4.3	3.9	
Shot volume	cm <sup>3</sup>	585	749	962	834	1071	1338	1198	1497	1829	
Shot weight (PS)	g	538	689	885	767	986	1231	1103	1377	1682	
Injection pressure	МРа	231	180	140	231	180	144	225	180	147	
Holding pressure	MPa	185	144	112	185	144	115	180	144	118	
Injection speed (standard/optional)	mm/s		160			160			160		
Injection rate (standard/optional)	cm³/s	353	452	581	452	581	726	581	726	887	
Screw speed	rpm		300			250		200			
Nozzle contact force	kN		60 60 100								
Heating power	kW		16.6/19			22.2/24.6			24.6/30.9		

 $<sup>\</sup>mbox{\%}$  The data above are measured according to factory testing standards and are for your reference only.

## FF460

	-	-	-	-	-	-	-	-	-			
					Cla	mping ι	ınit					
Clamping force	kN					4600						
Mold opening/ closing stroke	mm				810							
Space between tie bars	mm					920x920						
Minimum mold size	mm		644x644									
Mold thickness	mm		330-810									
Ejector stroke	mm		200									
Ejector force	kN		99									
Number of ejectors			13									
			Injection unit									
Model of injection un (standard/optional)	it		IU1930			IU2700			IU3700			
International specification			1928			2695			3691			
		А	A B C			В	С	А	В	С		
Screw diameter	mm	60	68	76	68	76	84	76	84	92		
Screw L/D ratio	L/D	22.6	20	20	22.3	20	20	22.1	20	20		
Screw stroke	mm		295		330			370				
Stroke-bore ratio		4.9	4.3	3.9	4.9	4.3	3.9	4.9	4.4	4.0		
Shot volume	cm³	834	1071	1338	1198	1497	1829	1678	2050	2460		
Shot weight (PS)	g	767	986	1231	1103	1377	1682	1544	1886	2263		
Injection pressure	МРа	231	180	144	225	180	147	220	180	150		
Holding pressure	МРа	185	144	115	180	144	118	176	144	120		
Injection speed (standard/optional)	mm/s		160			160			160			
Injection rate (standard/optional)	cm³/s	452	581	726	581	726	887	726	887	1064		
Screw speed	rpm		250		200			180				
Nozzle contact force	kN		60		100			100				
Heating power	kW		22.2/24.6		24.6/30.9			33.1/36.2				

 $<sup>\</sup>fint \$$  The data above are measured according to factory testing standards and are for your reference only.

### **Standard Features**

#### Control and monitoring unit

- · Highly sensitive 12-inch color touchscreen
- Memory of molding conditions (over 500
- 1 set of standard USB interface on the operation panel
- Multiple language (Chinese and English)
- Real-time display of injection molding data (200 items displayed; 5000 items saved)
- Operation modification record
- Alarm record
- Electrical control circuit for simple robot

- Metric and English unit conversions
- I/O check display function
- Printer interface (USB 17)
- · Cycle time monitoring
- Production management
- PDP data and charts
- · Injection quality check
- Cycle counter
- Molding temperature monitoring
- Tri-color alarm light

- Alarm buzzer
- Low-pressure mold protection curve checking
- Injection pressure protection
- Defect alert and handling
- Real-time display of injection and plasticizing servo motion curves
- Display of actual value
- Malfunction handling option selection
- Product quality monitoring
- Curves of mold opening/closing and ejector
- Injection processing curve monitoring

#### **Clamping unit**

- 5-stage mold opening and closing control
- Needle valve/Spure functions (4 sets)
- Multi-stage ejector forward
- Ejector backward delay time monitoring
- Automatic mold height adjustment
- Spure timing control
- Curves of mold open/close and ejector
- Platen with T-slot and mold mounting holes
- Low pressure mold protection (Ai highly-sensitive mold protection)

- Low speed, low pressure mold opening / closing in mold adjustment mode
- Ejection inside the mold (gate cutting inside the mold)
- Mold opening during ejector backward
- Ejector backward in place confirmation
- Ejector motion selection (4 modes)
- 3-stage ejector control
- Ejector motion delay
- Mold cooling water distributor

- Embedded dual-size locating ring design (fixed
- Emergency stop function (on both operator side and non-operator side)
- EU standard threaded mounting holes for robot
- Central lubrication system
- Slope control for mold opening and closing (high, medium and low modes)
- Core puller/unsrew function (2 sets of electrical
- Air blast (4 sets of electrical interfaces)
- Hydraulic ejector

### Plasticizing and injection unit

- Injection safety device (Test switch)
- 5-stage injection control (pressure, speed,
- 3-stage holding pressure control (pressure,
- 3-stage plasticizing control (back pressure,
- Suck-back control (pre-suckback and post-suckback)
- Injection delay function
- Pre-plasticizing delay

- Holding pressure switching (6 modes)
- · Injection speed response setting (High, medium, low)
- Mold opening during plasticizing
- Molding temperature closed-loop
- Temperature holding
- Temperature optimization
- Synchronized temperature rise
- Appointed temperature rise

- · Remaining resin prevention
- Screw cold start prevention
- Automatic material purge
- Calibration of injection pressure zero point
- · Real-time display of plasticizing speed
- Real-time display of plasticizing back pressure
- Injection unit shift settings (switch check, shift
- High-force nozzle contact device (configurable)
- Nozzle center alignment adjusting device

#### Other features

- Color of FF series electric injection molding Hopper sliding device machine
- Closed safety door

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- Adjustable vibration-damping wedge mount
- Power socket (220V x 1, on clamping unit frame)
- Power socket (380V, 32A x 2, 16A x 1, on the right side of the injection unit frame)
- Common tool kits and spare parts

# **Optional Features**

#### **Control and monitoring units**

- EU12 electrical interface for robot
- EU 67 electrical interface for robot
- Additional languages
- Cooling water circuit
- Heater burnout detection

- External transformer
- Electrical interface for product sorting device
- Electrical interface for gas assisted injection
- Electrical interface for magnetic
- Electrical interface for mold cavity pressure check
- Mold temperature display and control
- OPC UA/DA
- FU 73 electrical interface

#### Clamping unit

- Various locating rings
- Core unscrewing device
- Needle valve/spure device
- Air blast device Product chute

- Mold thermal insulation plate
- Glass-tube cooling water flowmeter
- Pneumatic ejector
- Pneumatic core puller device Increased Maximum daylight
- Mold slide protection
- Injection compression (clamping synchronized with injection)

#### Plasticizing and injection unit

- Dedicated barrel unit
- Extended nozzle
- Spring shut-off nozzle • Stainless steel hopper (max. load of 50kg dry
- Barrel heat-retaining energy-saving
- Ceramic heater band
- Mold internal pressure V/P switching
- Needle valve pneumatic injection
- High capacity injection nozzle heating
- Customized nozzle head

#### Other features

- Hopper sliding device (on wheels)
- Barrel heat-retaining energy-saving device
- Auxiliary electrical cabinet
- · Vacuum air extractor
- Quality control sorting device
- Integrated multi-stage mold temperature control

#### Disclaimer:

- 1. The company reserves the right to improve the products described in the brochure, specifications are subject to change without notice.
- 2. The product photos are for reference only, which are subject to the actual products.
- 3. The data are obtained from Yizumi's laboratory test, and the final interpretation right belongs to Yizumi.