Our offices and agents

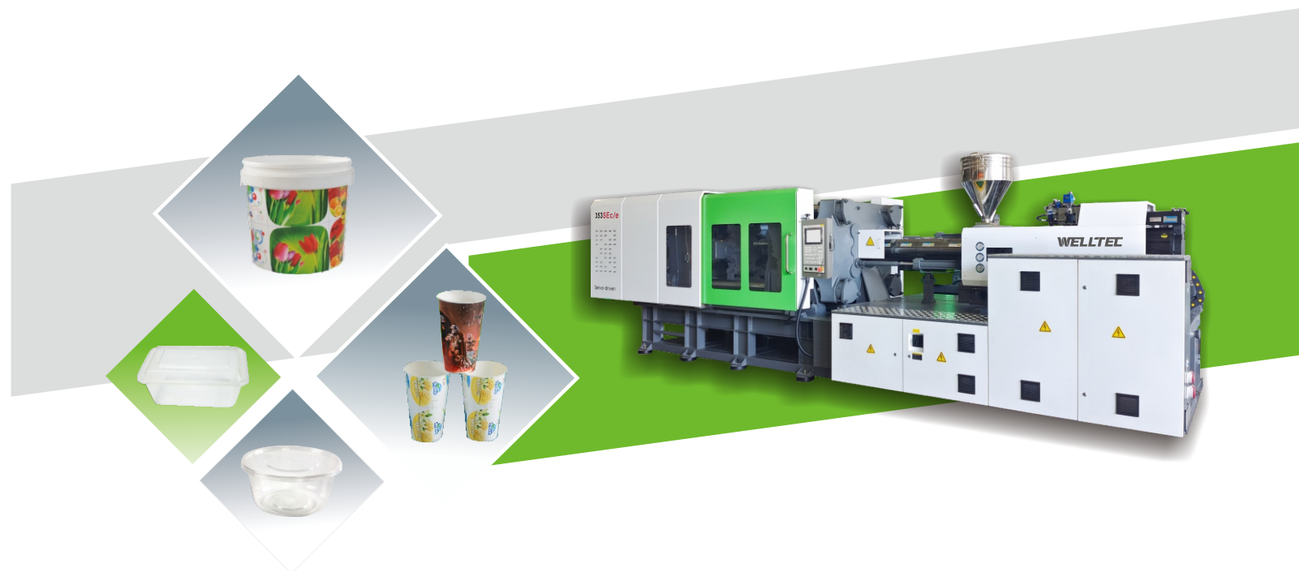
CPMIA
Energy Saving Award

WELLTEC
INJECTION EXPERT

SEc/e Series

Servo Energy Saving

Thin-wall High Speed Special Injection Moulding Machine(233-613Ton)



Welltec Machinery Ltd

www.welltec .com.hk

Version: SEc/e-202507W

www.welltec.com.hk

Structural Innovation

High speed

The maximum injection speed can reach 500mm/s, single cylinder high-speed injection and plasticizing, with high response servo hydraulic system and control system, it is ideally suitable for thin-wall packaging production.

High efficiency

Synchronous plasticizing (electric plasticizing) shortens the dry cycle and ensures high production efficiency.

Energy-saving and Durable

Special diversion and confluence treatment allows the servo motor and pump to rest during high-speed moulding.It saves energy while avoiding fatigue failure of servo motor and pump, thus prolongs the service life of the machine.

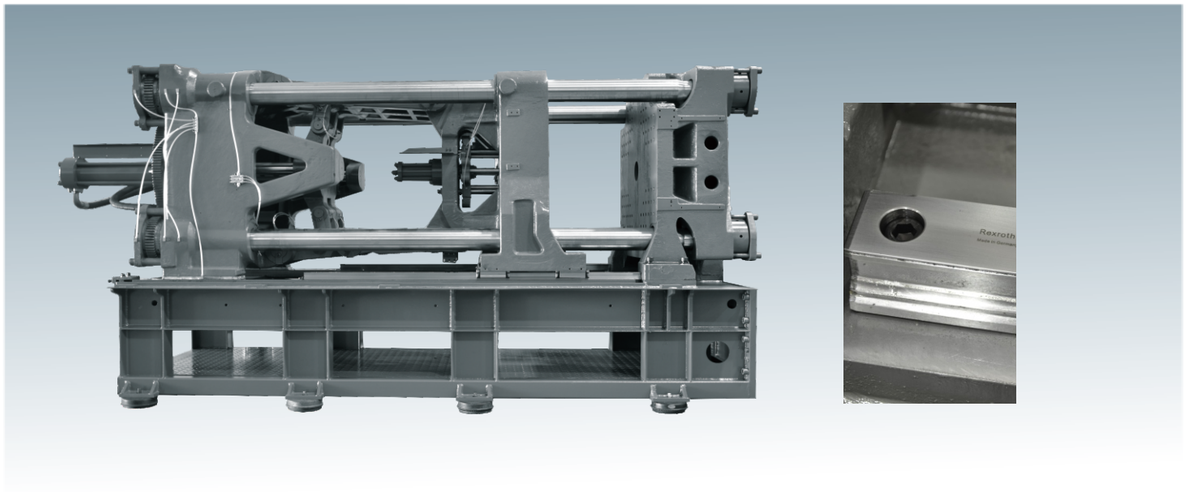
GREENLINE

Green up your life

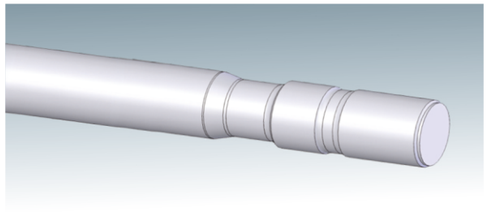
Stable

High-strength and low-strain clamping structure ensures high-intensity production. Coupled with a proportional valve, the movements are more precise, reliable and stable.

Structural Innovation

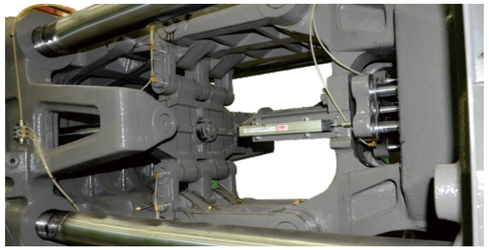


High–rigidity and low–strain clamping structure, equipped with linear guide rails and proportional valves, ensures smooth and stable operation. More suitable for high–speed systems.

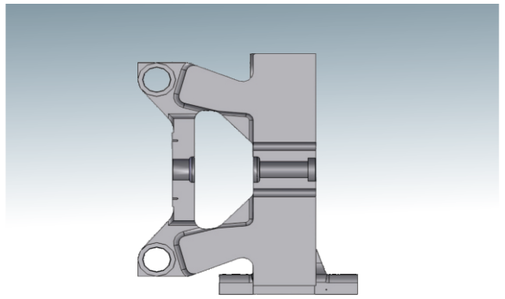


The special stress–relief groove of tie bar is designed to disperse the clamping stress and avoid breaking.

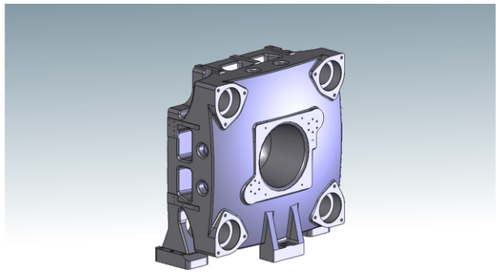
High response single–cylinder injection unit with high response servo energy saving hydraulic system and high speed operation control system. Direct drive servo plasticizing motor to achieve energy saving, high efficiency and precision plasticizing.



The design of the clamping toggle has been optimized to follow high–speed motion curve, and reduce stress for mould open/close which avoids damaging the toggle.

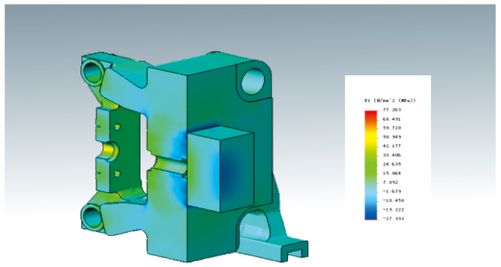


Stresses are evenly distributed through the platens and the center of the mould, high platen–parallelism to minimize flashes and reduce the demand for clamping force.

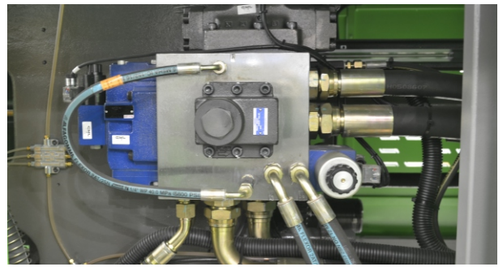


Stress–reducing mould platen designs to help maintaining platen–parallelism effectively and delivering products with even thickness.

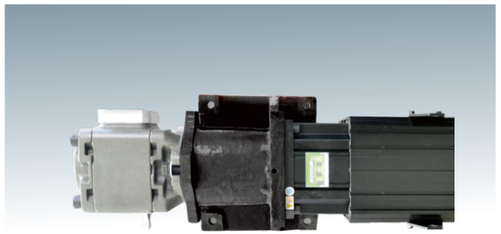
TFT color touchscreen display. Closed–loop control for mould open/close, injection, plasticizing and ejector. 6–stage injection, 5–stage pressure holding, 5– stage plasticizing, pressure – flow curve display. Quick system response with high precision control.



Optimized mould platen reduces deformation and stress.It improves durability to cater to high precision injection moulding.



High–speed and stable hydraulic circuits for mould open/close to achieve sensitive and low–pressure mould protection. High performance hydraulic components ensures a mould opening position repeatability of ±0.15mm.



High response servo system is supported by high response, low inertia and high KT value special servo motor, 30ms perfect acceleration(0–2000rpm) together with the seamless connection by high response CAN communication servo driver and the special control system.

Medical Consumables

The features of injection moulded syringe:

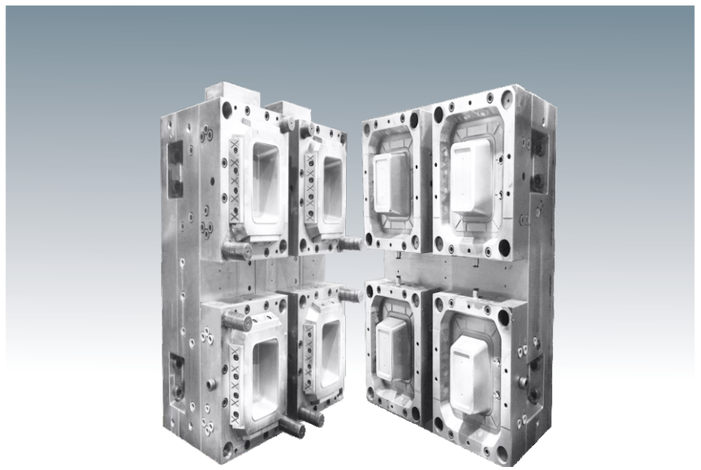
Clean and free of foreign objects; no edges, no plastic flow, no short shots and good sliding properties

Specification and model of medical consumable

Serial number	Specification		Number of cavities	Model
①	Straight–mouth single–use barrel	2ml	48	233SEc/e
②		5ml	48	233SEc/e
③		10ml	32	233SEc/e
④		20ml	26	293SEc/e
⑤		50ml	16	353SEc/e
⑥	Syringe plunger	2ml	56	233SEc/e
⑦		5ml	56	293SEc/e
⑧		10ml	40	233SEc/e
⑨		20ml	36	293SEc/e
⑩		50ml	16	423SEc/e

Food Packaging

The features of injection moulded food containers



Food container is durable. High pressure resistant and high–loading bearing qualities are achieved by uniform wall thickness, high tensile strength, good sealing and stable chemical properties.

Specification and model of food packaging

Specification / Number of cavity / Model	Round/Square food container						Round/Square lid	
	350ml	500ml	750ml	1000ml	1250ml	1500ml	500ml	1000ml
233SEc/e	4	4	2	–	–	–	4	2
293SEc/e	6	4	2	2	2	2	8	4
353SEc/e	8	6	4	4	4	–	–	6
423SEc/e	12	8	6	6	4	4	12	8
613SEc/e	12	12	8	8	8	6	16	12

■ According to the size of domestic lunch boxes, some products need to increase the injection speed. The above is for reference only.

Specifications

Item	Unit	233SEc/e	293SEc/e	353SEc/e	423SEc/e	613SEc/e
Injection unit						
Screw diameter	mm	45	50	55	60	65
Theoretical shot volume	cm^3	254	353	523	622	730
Shot weight (PS)	g	232	322	476	566	664
Shot weight (PS)	OZ	8	11.4	16.8	20	23.5
Length/Diameter ratio	L/D	22	22	25	25	23
Injection pressure	MPa	178	176	178	190	162
Injection speed	mm/s	225	300	413	514	532
Injection rate	cm^3/sec	360	585	981	1453	1764
Injection stroke	mm	160	180	220	220	220
Max. screw speed	rpm	340	320	300	280	280
Plasticizing capacity (PS)	g/s	37.8	47.0	60.5	73.1	87.0
Injection unit force	Ton	5.7	7.2	10.7	10.7	10.7
Carriage stroke	mm	360	390	490	490	530
Clamping unit						
Clamping force	Ton	233	293	353	423	613
Max. daylight	mm	1070	1145	1300	1400	1600
Clamping stroke	mm	520	545	650	700	850
Distance btwn. tie bars(H x W)	mm	560x520	610x580	675x645	730x680	820x800
Min. mould dimension(H x W)	mm	390x360	420x400	470x450	510x480	575x560
Mould thickness range	mm	250–550	280–600	280–650	300–700	350–750
Ejector force	Ton	6.7	6.7	8.4	12.1	16.1
Ejector stroke	mm	120	120	140	150	200
No. of ejector pins	unit	5	9	13	13	13
Others						
Pump motor power	kW	34	51	80	128.7	131
Plasticising motor power	kW	24	24	27	27	27
System pressure	MPa	17.5	17.5	19	19	19
No. of heating zones	unit	5+1	5+1	5+1	5+1	5+1
Heating power	kW	18.6	20.5	30.9	34	35.7
Total power	kW	77.6	96.5	138.9	190.7	194.7
Total current	A	118	147	211	290	296
Machine weight	Ton	8.8	11	15.2	19	25
Oil filling capacity	L	450	460	800	1000	1300
Dimensions (length, width, height)	mm	5654*1485*1847	6223*1573*1930	7107*1944*2012	7730*2490*2061	8563*2614*2242

■ We are always working on improvement and reserve the right to change design and specifications without prior notice

Specifications

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System pressure	MPa	17.5	17.5	19	19	19
No. of heating zones	unit	5+1	5+1	5+1	5+1	5+1
Heating power	kW	18.6	20.5	30.9	34	35.7
Total power	kW	53.6	72.5	111.9	163.7	167.7
Total current	A	81	110	170	249	255
Machine weight	Ton	8.8	11	15.2	19	25
Oil filling capacity	L	450	460	800	1000	1300
Dimensions (length, width, height)	mm	5654*1485*1847	6223*1573*1930	7107*1944*2012	7730*2490*2061	8563*2614*2242

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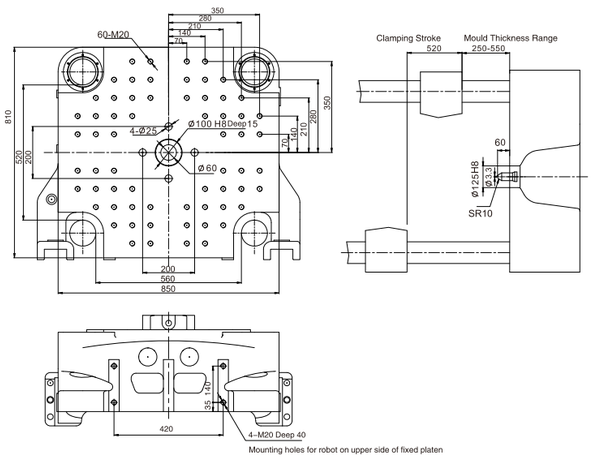
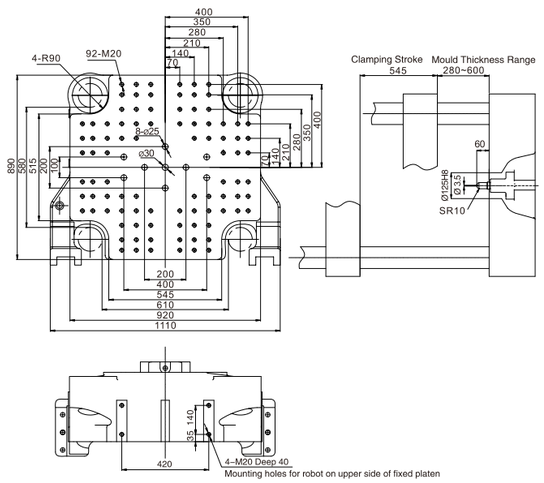
Platen/Nozzle Dimensions

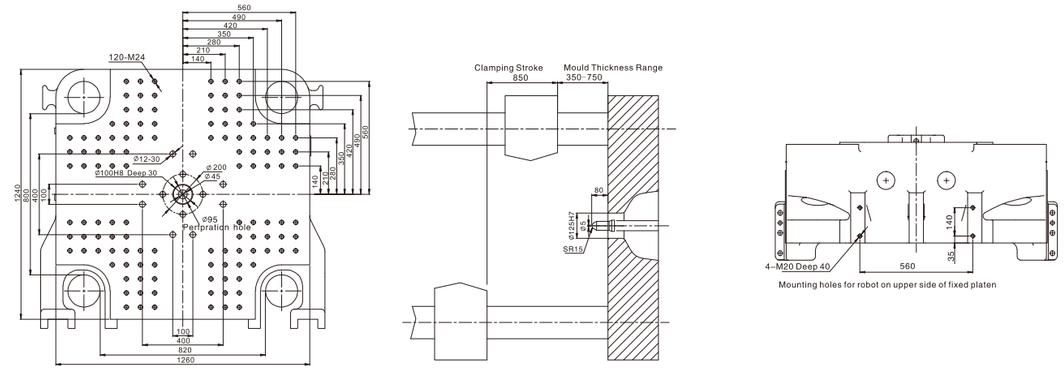
233SEc/233SEc/e



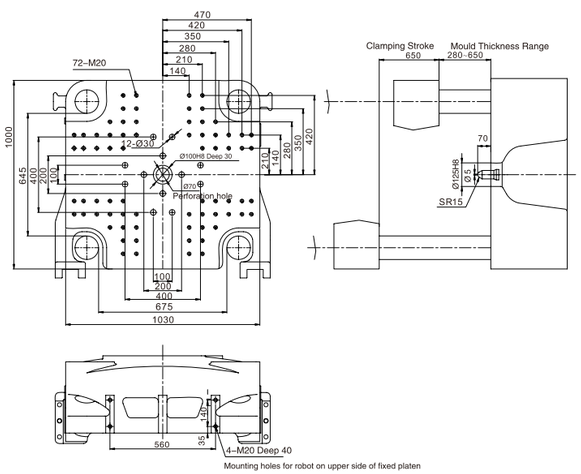
293SEc/293SEc/e



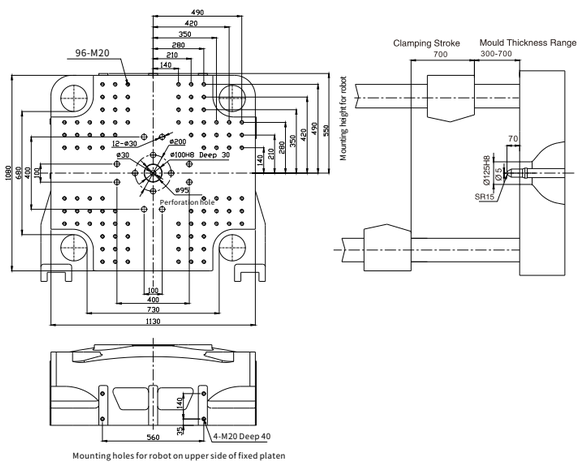
613SEc/613SEc/e



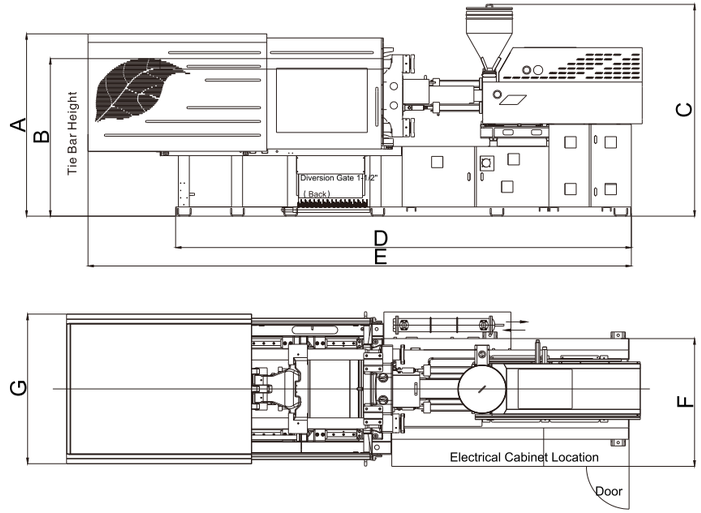
353SEc/353SEc/e



423SEc/423SEc/e



Machine Dimensions



MODEL	A	B	C	D	E	F	G
233SEc/233SEc/e	1797	1642	2248	4710	5654	1710	1485
293SEc/293SEc/e	1879	1717	2308	4970	6060	1540	1573
353SEc/353SEc/e	1962	1766	2280	6422	7223	1934	1710
423SEc/423SEc/e	2011	1805	2322	6880	7731	2490	1810
613SEc/613SEc/e	2192	1966	2414	7851	8863	2614	2270

Remark: C-hopper height for reference only