

 **aritime**

Kmotion Series

Efficient Injection Molding Machine

Exquisitely made product of German quality

 **aritime**

U.K.MARITIME TECHNOLOGY LTD
OEM partner: Ningbo Chuangji Machinery Co.,LTD.

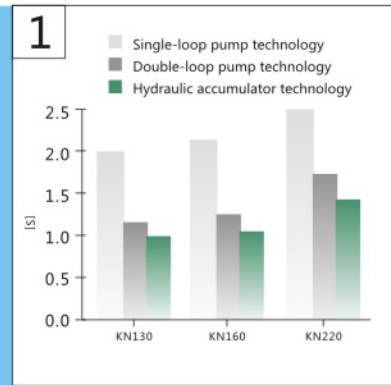
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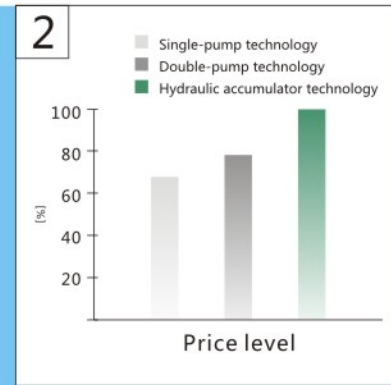


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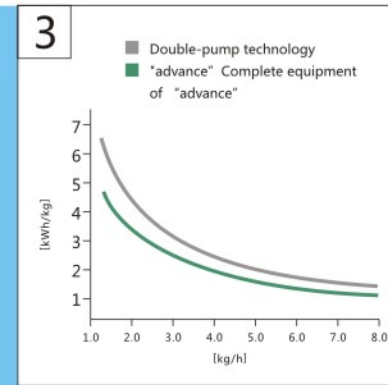
OVERVIEW



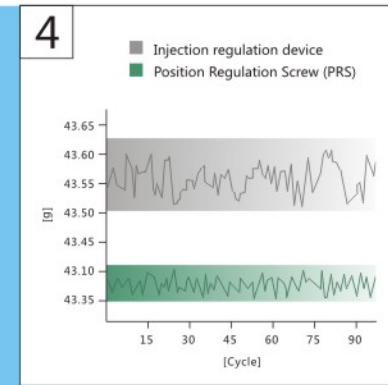
Shorter cycle time with hydraulic extension combination



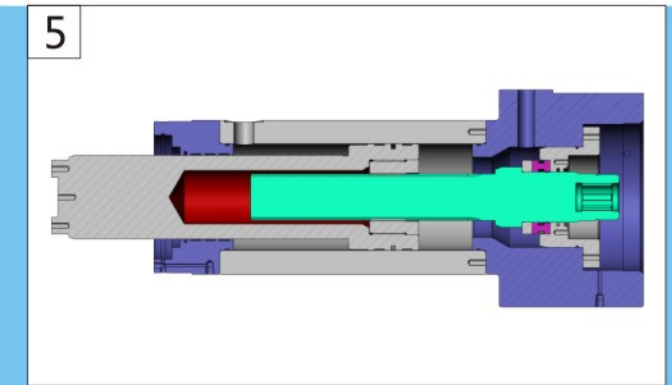
High cost effective, catering to different customers' needs.



Personalized : Achieve high performance



Repeatability: Accurate injection weight is ensured through PRS function.



Reliability: Low inertia co-swivel single-cylinder injection unit

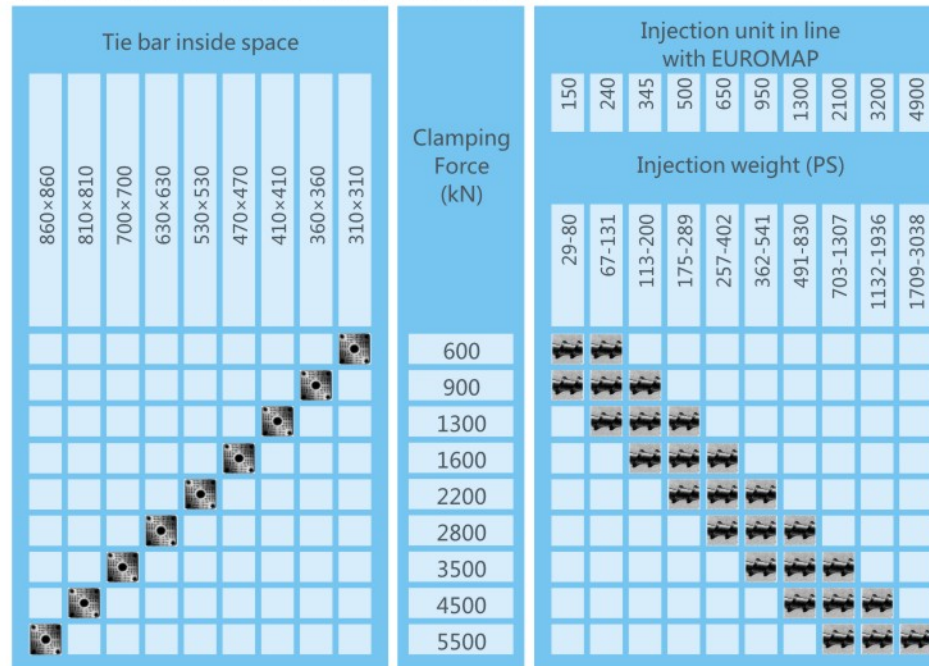
■Manufacture: High quality-High efficient-Precision-Energy saving products, is the aim of all person of Maritime.

■Design: Reliable- Long service life- Modular -User friendly, is the guideline of all designers of Maritime.

■Marketing: Create value for customers - providing cost effective injection solution is the guideline of every salesman of Maritime.

■Service: Swift-Efficient-all-weather service is the standard of every service personnel of Maritime.

Modular combinations: Best solutions will be provided according to the requirements of customers.



1 Wide range of applications

Kmtion series injection molding machine is adaptive to all known injection process. With powerful Kmotion control system, it can be integrated seamlessly with various peripherals. The complete injection solution is suitable for special product process, so that the product can be widely applied.

- Such as:
- ARIMOULD
 - AQUAMOULD
 - CELLMOULD
 - IML
 - IMD
 - PIM
 - OVERMOLDING
 - Super thick wall molding
 - Multiple component technology
 - Multiple processes combined

2 Cost effective

Kmtion series injection molding machines are the products of the legacy design and high-quality manufacture from German, as well as the assembly in China. They are very cost effective.

3 Personalized

The clamping, injection, and driving units can be combined in an optimized way according to the requirement of the customers to ensure high performance.

4 Highly repeatable

Kmtion series injection molding machines can deliver superior injection and ensure repeated filling and consistent high quality injection. The screw position control function can ensure comparable injection accuracy as that of the fully automatic units.

5 Reliability

Kmtion series injection molding machines can ensure long-term, high performance operation with components of superior quality. They are rugged and require no frequent maintenance.

HIGH-PERFORMANCE INJECTION MOLDING MACHINE

Always Up To The Highest Performance Requirement



1 High-yielding Driving Technology

The high performance servo driving technology can consistently ensure high production efficiency after the cycle time is shorten. The independent action of each movement axis can be achieved to ensure high efficiency and energy conservation through multi-pump combination, servo-electric injection and hydraulic accumulator technologies.

2 Powerful and accurate clamping unit

The optimized new five-point double-toggle clamping unit is firm, enduring and deformation proof; especially suitable for 24-hour non-stop operation with high speed and high pressure.

3 Adaptable injection unit

A variety of injection units, screws of different diameters, wear resistances and geometries, including those with high performance and mixed function, inside the feed tube module, can be selected to meet the personalized demand from customers.

- Electric pre-plasticization
 - Electric injection
 - Screw position regulation
 - Accumulator injection
- These solutions can improve the injection quality.

4 KM1000 Control System

KM1000 provides the same operating system for the whole system with everything under controlled.

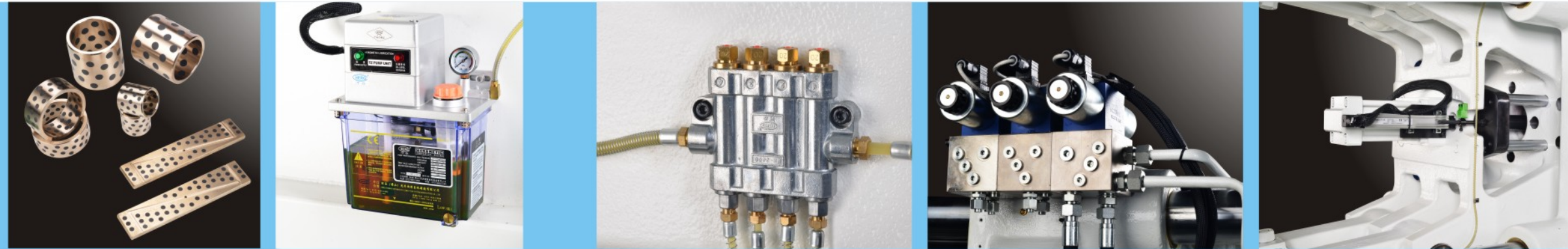
The lasting clean quality of this product is the result of the design philosophy that values flexibility, full-automation and efficiency.

The biggest expectation of the customers of Maritime: building more products that are fast, accurate and clean!



CLAMPING UNIT

Fast, stable, firm, clean



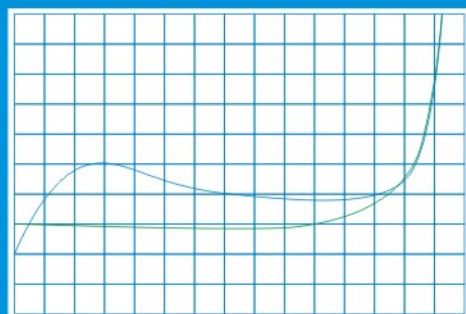
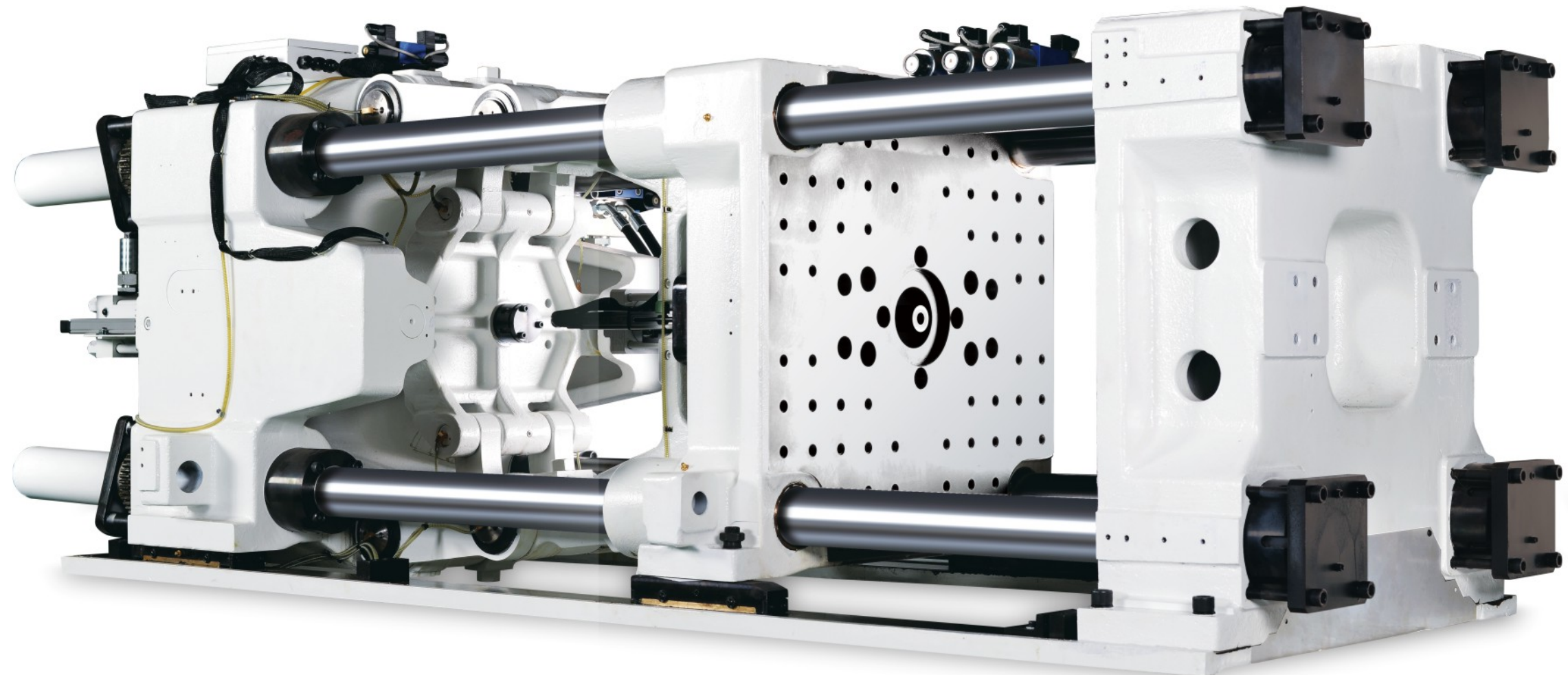
■ The optimized new five-point double-toggle clamping unit ensures smooth running at high speeds. It is especially suitable for 24-hour non-stop operation with high speed and high pressure.

■ The pin bushing, pull-rod bushing and moving plate slide are made of copper material, which require as few lubrications as once per 1000-1500 moldings with volumetric lubrication system, a substantial saving of lubricant. The clamping zone is very clean.

■ Near positioned hydraulic control and high-precision control system allow the movable plate to move at a speed up to 1500 mm/s, with accurate positioning.

■ European type ejection mechanism featuring wide space and easy installation of the mold.

■ Sensitive mold protection function.



Platen

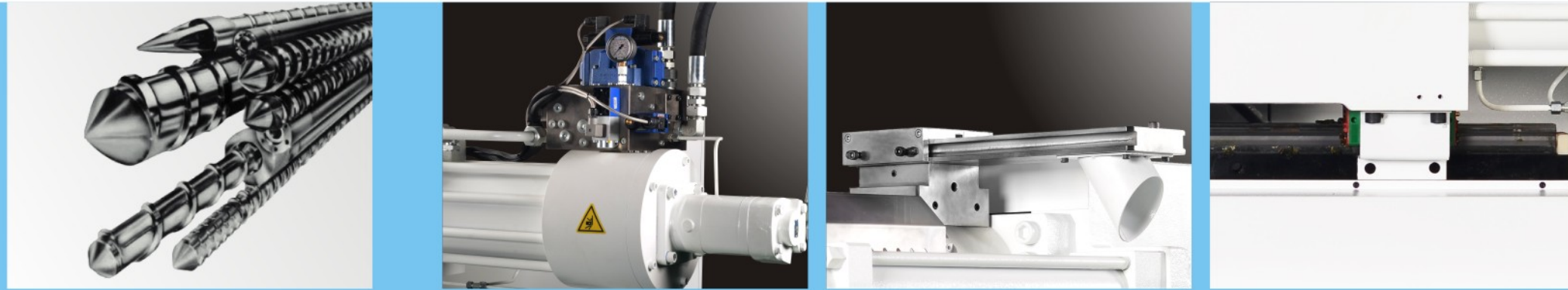
Toggle

INJECTION UNIT

Accurate, fast, powerful and enduring



Maritime



- Featuring in-line design: The screw, oil cylinder, and pre-plasticization motor have the same axis to ensure low inertia during high-speed injections.

- The pre-plasticization motor is a high-speed, high-torque hydraulic motor. Electric pre-plasticization is available if better energy conservation is required.

- The standard injection speed is in accordance with European regulation, to ensure fast speed and accurate positioning. The product has little inner stress and stable quality.

- The speed can be as high as 800mm/s if hydraulic accumulator injection or electric injection is used.

- Two symmetrically positioned oil cylinder, with nozzle contact force evenly distributed and precisely adjusted to ensure the concentricity between the nozzle hole and the mold gate.

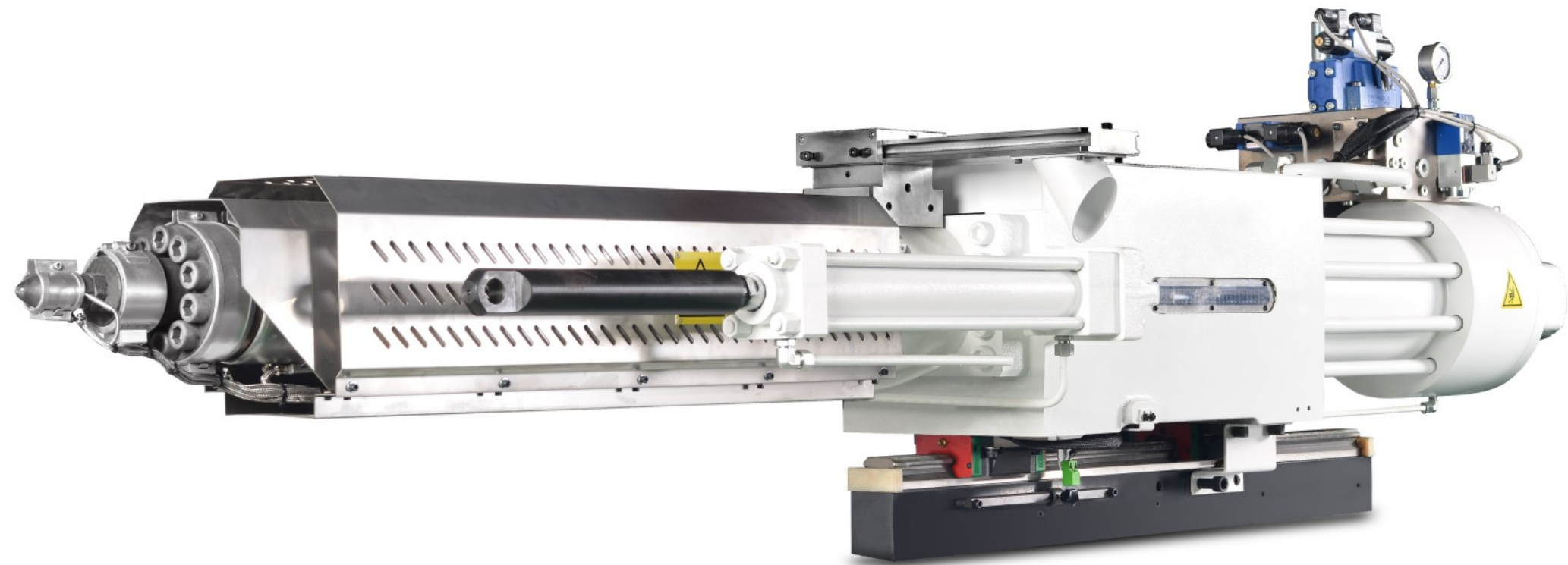
- The injection unit features full support structure with line rails: ensuring fast, smooth and low friction with higher operation precision and less energy consumption during the movement. The barrel can withstand a heavier hopper.

- Proportional backpressure control with easy operation and stable properties.

- PID temperature control with fuzzy optimization algorithm that can ensure accurate material temperature.

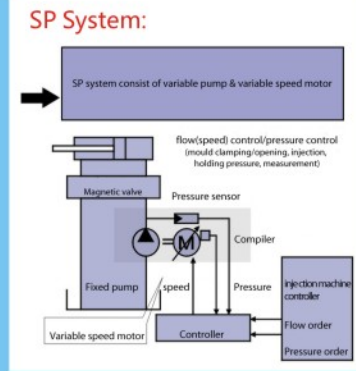
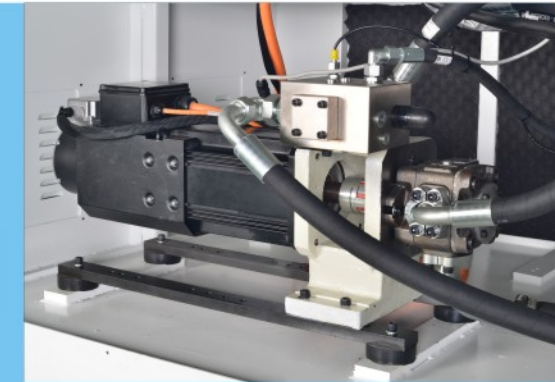
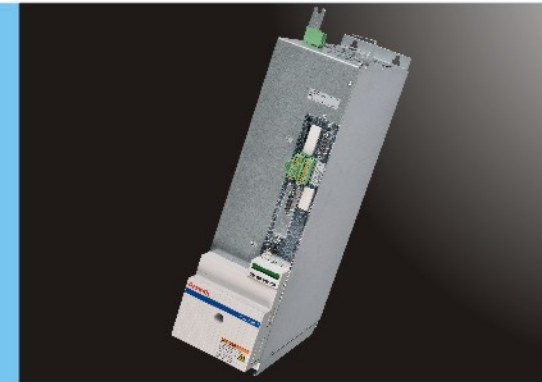
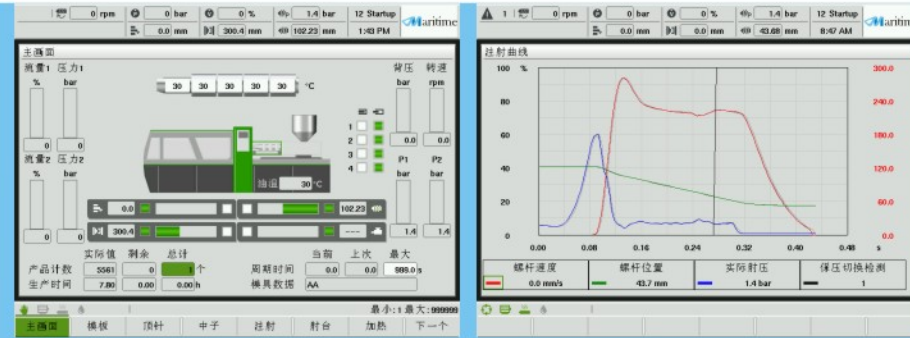
- For screws of different specification , /D = 20: 1, to ensure the consistency of plasticization.

- For high speed screws, L/D = 24: 1 or 28: 1, to secure the high-speed plasticization ability.



Driving And Control Technology Unit

Efficient, precise, integrated, smart



- Efficient driving technology: Imported servo system+imported internal gear pump, output energy consumption variable with the load, closed-loop control of pressure and speed, energy saving, precise and fast responding.
- The modularized hydraulic valve plate and optimized hydraulic arrangement can effectively reduce the pressure loss and improve response. They also makes it easier to upgrade the function or change the oil path.
- Environment friendly: The overflow and heat generation free servo pump control system+imported efficient cooler significantly reduce the water consumption. Hydraulic fittings and rubber holes meeting DIN standards are used to prevent oil pollution.
- Reliable and smart control system make it rather easy to achieve high-precision, fast molding.
- Powerful software control makes it possible to realize complex process through simple operation.
- User interface that in line with the contemporary consumers' habit of using electronic devices.
- Perfect injection molding machine software control, SPC quality control and seamless integration with the peripherals.
- Efficient driving technology: Imported servo system+imported internal gear pump, output energy consumption variable with the load, closed-loop control of pressure and speed, energy saving, precise and fast responding.
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Analog, canopen or sercos

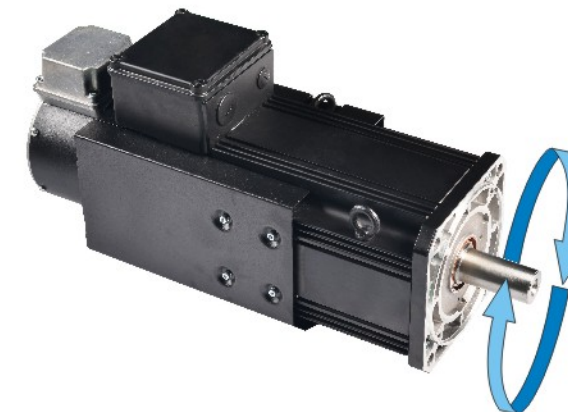


P current

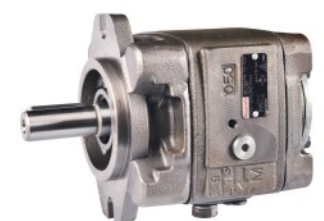


n speed command

n current



Q and P



Functional Configuration

Functional Description	Model		
	KM60-130CX	KM160-550CX	KM160-550CP
Injection section			
Standard screw: B	●	●	●
Other models of the screw	○	○	○
Bimetallic screw and barrel	○	○	○
Chrome-plated screw	○	○	○
Full hard screw	○	○	○
Needle-type self-sealing nozzle	○	○	○
Hydraulic/ pneumatic self-sealing nozzle	○	○	○
Single-cylinder injection system	●	●	●
Balanced injective shift cylinder	●	●	●
Fully supported injection unit	●	●	●
Injection unit oversizing or downsizing	○	○	○
Hydraulic motor oversizing	○	○	○
Electric pre-plasticization	○	○	○
Electric injection	○	○	○
Hydraulic accumulator injection	○	○	○
Injection electronic ruler	●	●	●
Nozzle electronic ruler	○	○	○
Screw speed display	●	●	●
Outlet automatic temperature control	○	○	○
Ordinary heating ring	●	●	○
Ceramic heating ring	○	○	●
Electromagnetic heating coil	○	○	○
Automatic material cleaning function	●	●	●
Cold start protection	●	●	●
Nozzle guard	●	●	●
Proportional backpressure	●	●	●
Servo valve device	○	○	○
Clamping section			
T-slot plate	○	○	○
Magnetic plate	○	○	○
Mold thickness enlargement	○	○	○
CE hydraulic valve, electric-pneumatic dual safety device	●	●	●
Opening-closing and striping electronic ruler control	●	●	●
Finished product chute with electronic eye detection	○	○	○
Finished product QS functional device	○	○	○
Mold adjustment limit switch	●	●	●

Note: For standard configuration. "○" denotes "optional", meaning unavailable.
Due to constant improvement of the product, the company reserves the right to modify the properties and configurations without giving notice.

Functional Description	Model		
	KM60-130CX	KM160-550CX	KM160-550CP
Clamping section			
Automatic mold adjustment function	●	●	●
Closing force display	○	○	○
Clamping force display	○	○	○
Door widening	○	○	○
Automatic safety door	○	○	○
Frame	○	—	—
Quantitative centralized lubrication system	●	●	●
Glass tube cooling flow meter	●	●	●
Quick plug water distributor	○	○	○
Hydraulic, electric rotating striping device	○	○	○
Blowing device	○	○	●
Pulling device	○	●	●
Hydraulic twist tooth device	○	○	○
Twist tooth counter	○	○	○
Opening-closing proportional valve	○	○	●
Synchronized action (ejection, neutron)	○	○	●
Hot runner nozzle hydraulic control function	○	○	○
Insulation board	○	○	○
Hydraulic section			
Servo pump (SVP) control system	●	●	●
Electronic variable pump DFEE	○	○	○
Oil pump and motor power increasing	○	○	○
Cooler oversizing	○	○	○
Oil temperature display	●	●	●
Oil temperature automatic control	○	○	○
Oil level alarm	○	○	○
Oil pre-heating function	○	○	○
Tank magnet	●	●	●
Bypass cooler	○	○	○
High pressure in-line filter	○	○	○
Low pressure back flow filter	○	○	○
External filter interface	●	●	●
Self-sealing magnetic suction filter	●	●	●

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Functional Configuration

Melted material weight conversion table

Functional Description	Model		
	KM60-130CX	KM160-550CX	KM160-550CP
Electrical section			
10" color screen	●	●	●
Movement realization monitor function	●	●	●
Production material monitor function	●	●	●
Failure alarm display function	●	●	●
Hardware system input and output function	●	●	●
European size 12 robot interface	○	○	○
European size 67 robot interface	○	○	○
3-color alarm light	●	●	●
Motor overload protection	●	●	●
Rear safety door emergency stop button	●	●	●
Solid state relay heating SSR	●	●	●
Three-phase five-wire receptacle(16A)	●	○	—
Three-phase five-wire receptacle(32A)	○	●	●
Single-phase receptacle(10A)	●	●	●
European size three-phase five-wire receptacle(16A)	○	○	—
European size three-phase five-wire receptacle(32A)	○	○	○
European size single-phase receptacle(10A)	○	○	○
Hot runner control system and interface	○	○	○
Network management system	○	○	○
Other			
Fully enclosed sheet metal in accordance with CE safety standards	●	●	●
Foot shock, manual	●	●	●
Toolbox, wearable spare parts	●	●	●
Mold clamp	○	○	○
Stainless steel hopper	○	○	○
Drying hopper	○	○	○
Hopper magnet frame	○	○	○
Special color (Please provide Pantone No.)	○	○	○
Robot	○	○	○
Chiller	○	○	○
Mold temperature controller	○	○	○
Dehumidifiers	○	○	○
Automatic feeder	○	○	○
Fumigated wooden packing	○	○	○
Take-up product platform	○	○	○

Note: For standard configuration. " o " denotes "optional" , meaning unavailable.
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Material	Correction Factor For Melted Material
Material	Factor
HD_PE	0.75
LD_PE	0.73
PP	0.73
PP + 20%Talcum	0.85
PP+40%Talcum	0.98
PP + 20%GF	0.85
PS	0.91
SB	0.88
ABS	0.88
SAN	0.88
PA	0.91
PA6 + 30%GF	1.14
PC	0.97
PE	0.71
PC/ABS	0.94
PMMA	0.94
POM	1.15
PET	1.08
PBT	1.08
CAB	1.02
PVC-rigid	0.97
CA	1.02
PVC-flexible	1.12
PF (thermosets)	1.3
UP (thermosets)	1.6

Injection weight=Correction factor for melted material X injection volume

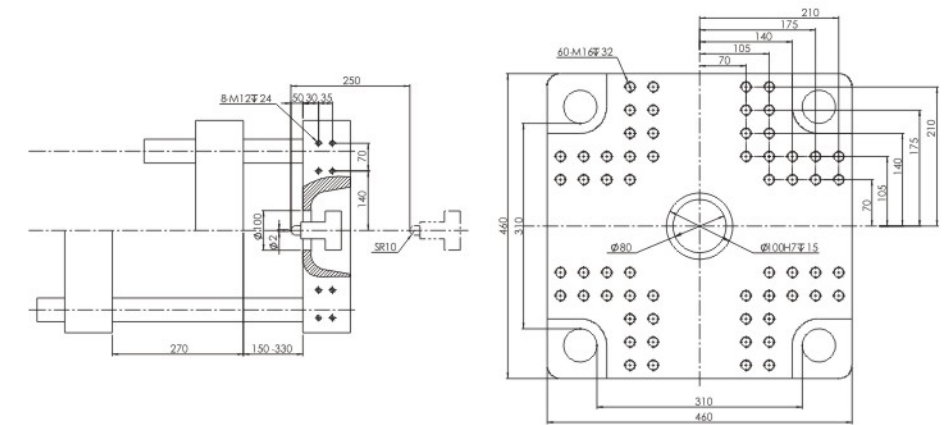
TECHNICAL PARAMETERS

Description	Unit	KM 60-CX				KM 90-CX			KM 130-CX		
Internationally recognized model		150				240			345		
Injection system		A	B	C	D	A	B	C	A	B	C
Screw diameter	mm	18	21	25	30	25	30	35	30	35	40
L/D of screw	L/D	20	20	20	20	20	20	20	20	20	20
Theoretical injection volume	cm ³	32	43	61	88	74	106	144	124	168	220
Actual injection volume	g	29	39	56	80	67	96	131	113	153	200
	oz	1.0	1.4	2.0	2.8	2.4	3.4	4.6	4.0	5.4	7.1
Injection pressure	Bar	3750	3490	2462	1710	3352	2328	1710	2792	2051	1570
Injection rate	cm ³ /s	46	62	88	126	65	93	126	100	136	178
Plasticization capacity (PS)	g/s	4.0	4.3	10.7	15.5	10.4	15.1	23.4	15.5	24.0	38.0
Injection stroke	mm	125				150			175		
Injection speed	mm/s	199				146			157		
Maximum speed of screw	r/min	400				389			400		
Clamping system											
Clamping Force	kN	600				900			1300		
Inside space of tie bar	mm	310×310				360×360			410×410		
Plate shape	mm	460×460				540×540			620×620		
Clamping stroke	mm	280				330			380		
Minimum mold thickness	mm	150				200			200		
Maximum mold thickness	mm	330				380			450		
Maximum plate distance	mm	610				710			830		
Ejection stroke	mm	80				100			120		
Ejection force	kN	18				37			45		
Number of ejectors		1				5			5		
Power/Electric Heating											
Total power supply	kVA	19/28				21/31			27/39		
Power of oil pump motor	kW	12				12			15		
Electric heating power	kW	4.5	5.0	5.4	6.9	5.4	6.9	8.5	7.6	8.9	11.2
Temperature control zone		4	4	4	4	4	4	4	4	4	4
Other											
Dry cycle time	s-mm	1.2-180				1.5-250			1.7-250		
Tank volume	L	175				275			350		
Dimensions of machine	m×m×m	4.0×1.40×1.8				4.5×1.40×1.9			5.0×1.40×1.95		
Weight of machine	t	3				4			5		
Hopper volume	kg	25				25			25		
Cooling water flow	L/min	39				70			70		

Due to constant improvement of the product, the company reserves the right to modify the properties and configurations without giving notice.

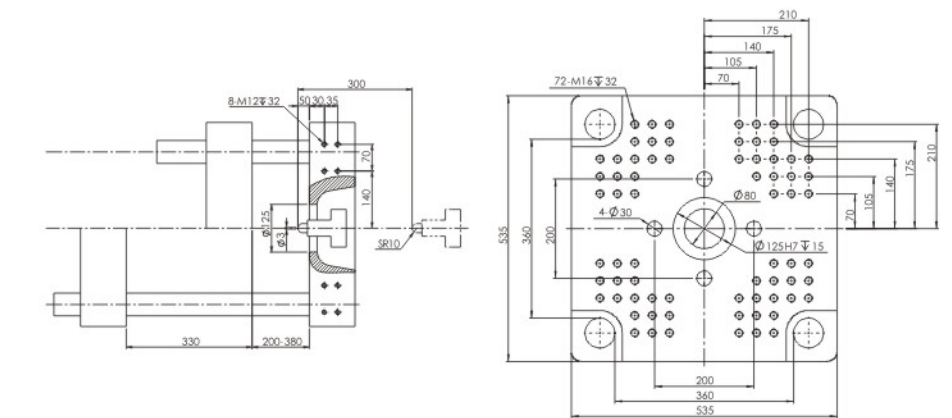
Dimensions Of The Plate

KM 60-CX



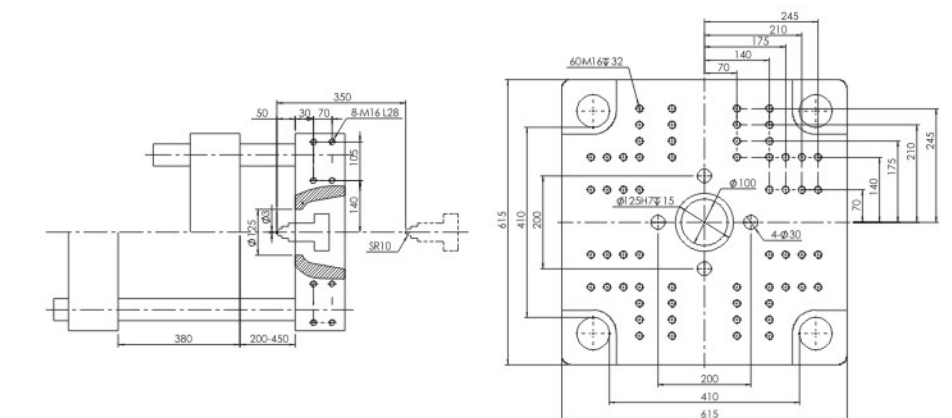
Dimensions Of The Plate

KM 90-CX



Dimensions Of The Plate

KM 130-CX

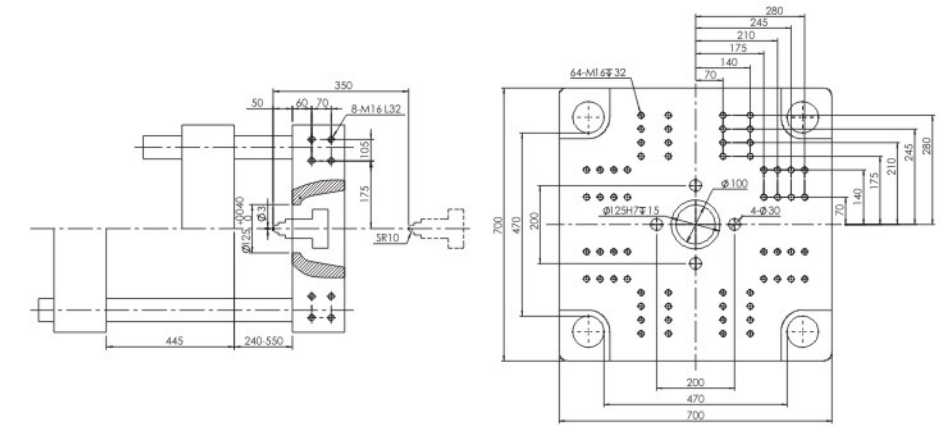


TECHNICAL PARAMETERS

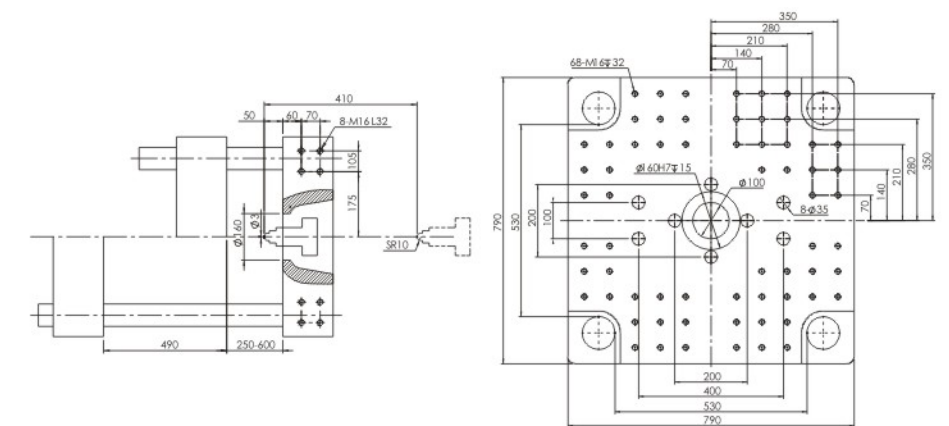
Description	Unit	KM 160-CX			KM 220-CX			KM 280-CX		
Internationally recognized model		500			650			950		
Injection system		A	B	C	A	B	C	A	B	C
Screw diameter	mm	35	40	45	40	45	50	45	50	55
L/D of screw	L/D	20	20	20	20	20	20	20	20	20
Theoretical injection volume	cm ³	192	251	318	283	358	442	398	491	594
Actual injection volume	g	175	229	289	257	326	402	362	447	541
	oz	6.2	8.1	10.2	9.1	11.5	14.2	12.8	15.8	19.1
Injection pressure	Bar	2621	2007	1586	2328	1839	1490	2402	1946	1608
Injection rate	cm ³ /s	131	171	216	190	240	296	230	284	344
Plasticization capacity (PS)	g/s	23.3	36.9	48.5	37.7	49.6	59.6	38.8	46.6	72.5
Injection stroke	mm	200			225			250		
Injection speed	mm/s	151			168			161		
Maximum speed of screw	r/min	388			397			311		
Clamping system										
Clamping Force	kN	1600			2200			2800		
Inside space of tie bar	mm	470×470			530×530			630×630		
Plate shape	mm	710×710			800×800			930×930		
Clamping stroke	mm	445			490			600		
Minimum mold thickness	mm	240			250			280		
Maximum mold thickness	mm	550			600			730		
Maximum plate distance	mm	995			1090			1430		
Ejection stroke	mm	140			150			180		
Ejection force	kN	45			73			84		
Number of ejectors		5			9			13		
Power/Electric Heating										
Total power supply	kVA	32/46			39/56			50/72		
Power of oil pump motor	kW	19			23			30		
Electric heating power	kW	8.9	11.2	12.6	11.2	12.6	15.9	14.3	17.0	20.0
Temperature control zone		4	4	5	4	5	5	5	5	5
Other										
Dry cycle time	s-mm	1.9-280			2.0-320			2.2-390		
Tank volume	L	400			450			550		
Dimensions of machine	m×m×m	5.5×1.45×1.97			6.5×1.57×2.04			7.1×1.83×2.08		
Weight of machine	t	7			10			13		
Hopper volume	kg	25			50			50		
Cooling water flow	L/min	70			114			193		

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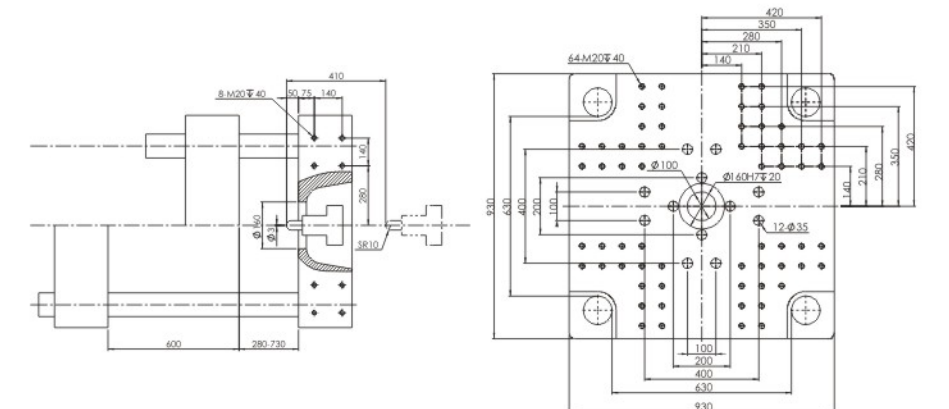
Dimensions Of The Plate KM 160-CX



Dimensions Of The Plate KM 220-CX



Dimensions Of The Plate KM 280-CX

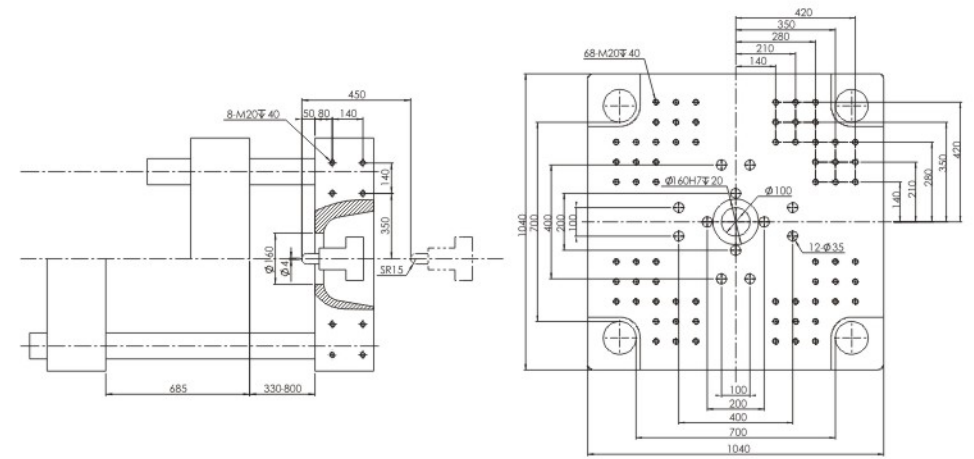


TECHNICAL PARAMETERS

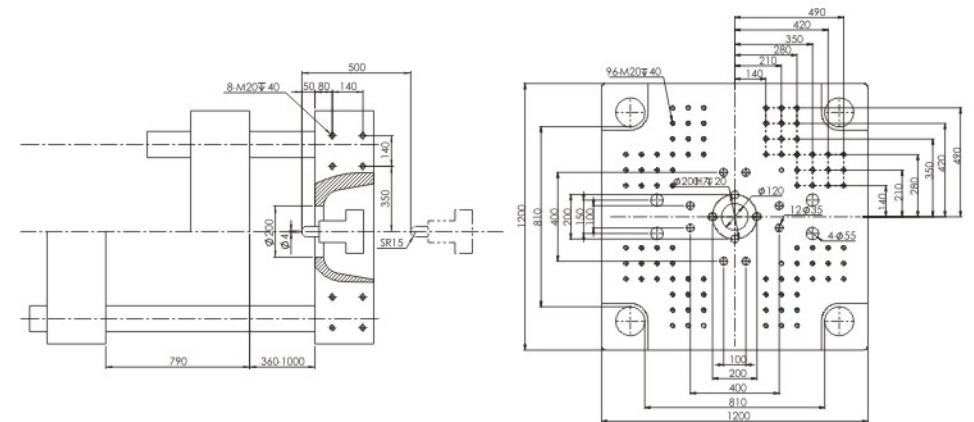
Description	Unit	KM 350-CX			KM 450-CX			KM 550-CX		
Internationally recognized model		1300			2100			3200		
Injection system		A	B	C	A	B	C	A	B	C
Screw diameter	mm	50	55	65	55	65	75	65	75	85
L/D of screw	L/D	20	20	20	20	20	20	20	20	20
Theoretical injection volume	cm ³	540	653	913	772	1078	1436	1244	1657	2128
Actual injection volume	g	491	595	830	703	981	1307	1132	1508	1936
	oz	17.3	21.0	29.3	24.8	34.6	46.1	39.9	53.2	68.3
Injection pressure	Bar	2462	2035	1457	2770	1983	1490	2590	1946	1515
Injection rate	cm ³ /s	283	342	478	309	431	574	413	549	706
Plasticization capacity (PS)	g/s	36.6	44.8	69.2	39.3	60.7	89.3	59.0	86.8	114.6
Injection stroke	mm	275			325			375		
Injection speed	mm/s	160			144			138		
Maximum speed of screw	r/min	244			214			208		
Clamping system										
Clamping Force	kN	3500			4500			5500		
Inside space of tie bar	mm	700×700			810×810			860×860		
Plate shape	mm	1050×1050			1200×1200			1300×1300		
Clamping stroke	mm	685			790			840		
Minimum mold thickness	mm	330			360			420		
Maximum mold thickness	mm	800			1000			1100		
Maximum plate distance	mm	1485			1790			1940		
Ejection stroke	mm	200			230			230		
Ejection force	kN	84			121			121		
Number of ejectors		13			17			17		
Power/Electric Heating										
Total power supply	kVA	62/90			87/125			107/155		
Power of oil pump motor	kW	40			56			72		
Electric heating power	kW	18.4	19.0	22.0	19.0	26.0	31.0	26.0	31.0	35.0
Temperature control zone		5	6	6	6	6	6	6	6	6
Other										
Dry cycle time	s-mm	2.4-430			2.8-500			3.2-540		
Tank volume	L	700			900			1100		
Dimensions of machine	m×m×m	7.8×1.96×2.15			9×2.25×2.3			9.5×2.25×2.7		
Weight of machine	t	18			21			28		
Hopper volume	kg	50			100			100		
Cooling water flow	L/min	193			240			400		

Due to constant improvement of the product, the company reserves the right to modify the properties and configurations without giving notice.

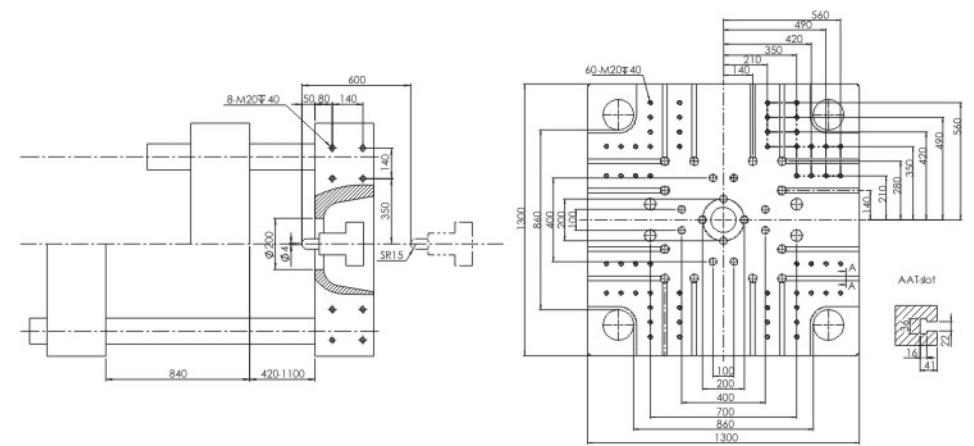
Dimensions Of The Plate KM 350-CX



Dimensions Of The Plate KM 450-CX



Dimensions Of The Plate KM 550-CX

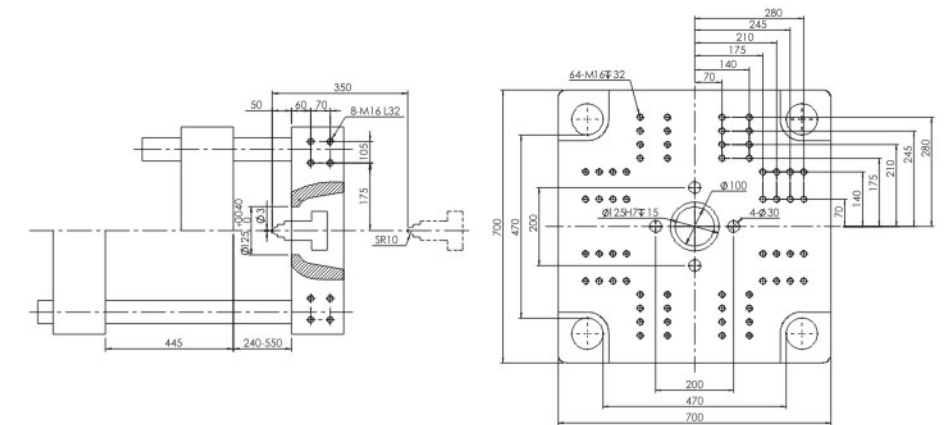


TECHNICAL PARAMETERS

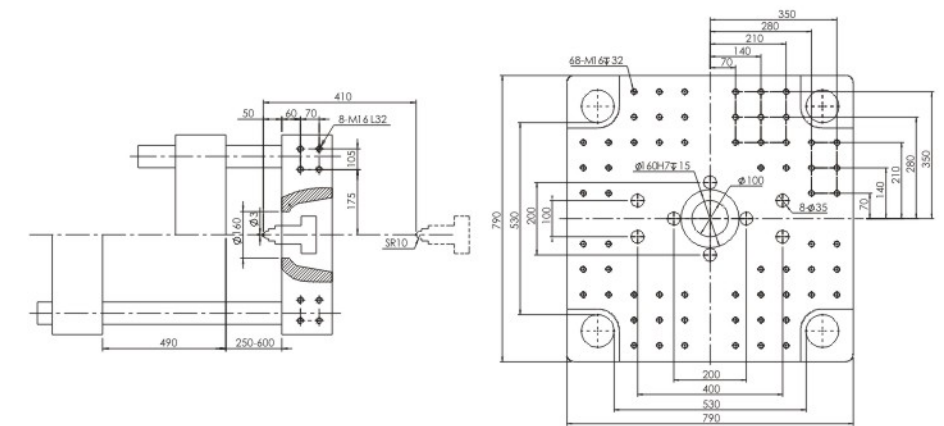
Description	Unit	KM 160-CP			KM 220-CP			KM 280-CP		
Internationally recognized model		650			950			1300		
Injection system		A	B	C	A	B	C	A	B	C
Screw diameter	mm	40	45	50	45	50	55	50	55	65
L/D of screw	L/D	20	22/20	20	20	22/20	20	20	22/20	20
Theoretical injection volume	cm ³	283	358	442	398	491	594	540	653	913
Actual injection volume	g	257	326	402	362	447	541	491	595	830
	oz	9.1	11.5	14.2	12.8	15.8	19.1	17.3	21.0	29.3
Injection pressure	Bar	2328	1839	1490	2402	1946	1608	2462	2035	1457
Injection rate	cm ³ /s	267	338	418	327	403	488	398	482	673
Plasticization capacity (PS)	g/s	33.3	43.8	52.5	43.8	52.5	81.7	45.0	55.0	85.0
Injection stroke	mm		225			250			275	
Injection speed	mm/s		236			228			225	
Maximum speed of screw	r/min		350			350			300	
Clamping system										
Clamping Force	kN	1600			2200			2800		
Inside space of tie bar	mm	470×470			530×530			630×630		
Plate shape	mm	710×710			800×800			930×930		
Clamping stroke	mm	445			490			600		
Minimum mold thickness	mm	240			250			280		
Maximum mold thickness	mm	550			600			830		
Maximum plate distance	mm	995			1090			1430		
Ejection stroke	mm	140			150			180		
Ejection force	kN	45			73			84		
Number of ejectors		5			9			13		
Power/Electric Heating										
Total power supply	kVA	57/82			67/96			82/118		
Power of oil pump motor	kW	40			45			54		
Electric heating power	kW	11.2	12.6	15.9	14.3	15.9	17.5	18.4	19.0	22.0
Temperature control zone		4	5	5	5	5	5	5	6/5	6
Other										
Dry cycle time	s-mm	1.9-280			2.0-320			2.2-390		
Tank volume	L	400			450			550		
Dimensions of machine	m×m×m	5.5×1.45×1.97			6.5×1.57×2.04			7.1×1.83×2.08		
Weight of machine	t	7			10			13		
Hopper volume	kg	25			50			50		
Cooling water flow	L/min	141			160			210		

Due to constant improvement of the product, the company reserves the right to modify the properties and configurations without giving notice.

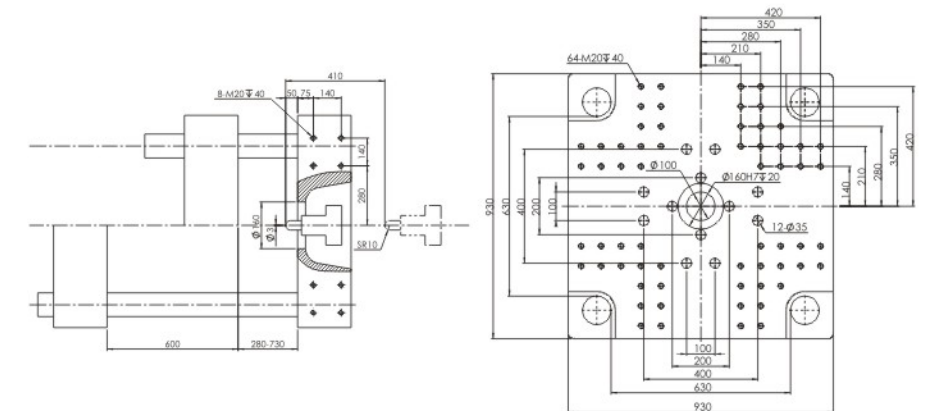
Dimensions Of The Plate KM 160-CP



Dimensions Of The Plate KM 220-CP



Dimensions Of The Plate KM 280-CP





Training

In order to ensure that you and your employees always have the latest skills, our training center can offer you with efficient, object orient and operation orient, and personalized training plans. Maritime will show you how to set up the machine outside the production environment and precisely simulate the operation of the control unit. In addition, you and your employees can also use the platform of Maritime to gain new knowledge.

24-hour On-line Service

Normally, the production equipment can run smoothly, but if there is any problem, we can offer 24-hour, all-weather remote maintenance and hot-line support to help you identify the trouble and be ready to remove the problem for you at any time.

Preemptive Spare Part Service

We respond swiftly to your need of part change to solve the problem of your machine. Because we know that time is money. With our complete spare part service center, we can assure quickest and most cost effective part deliver.



ALWAYS UP TO THE HIGHEST
PERFORMANCE REQUIREMENT

Plastics processing requires constant changing of the adjustment of your machine (within the whole service life). We offers support and trainings for you with our rich knowledge and Maritime additional services.