

EKH Series

BOLE
Injection Moulding Machine

EKH Hydraulic Servo Energy Saving Injection Moulding Machine



The Passionate Pursuit of Perfection

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**Invention Patent,
Central Clamping Toggle**
(Patent No.: ZL2011 10250342.5)



Automobile industry



Commodity industry



3C Electronics



Home appliance



Logistics

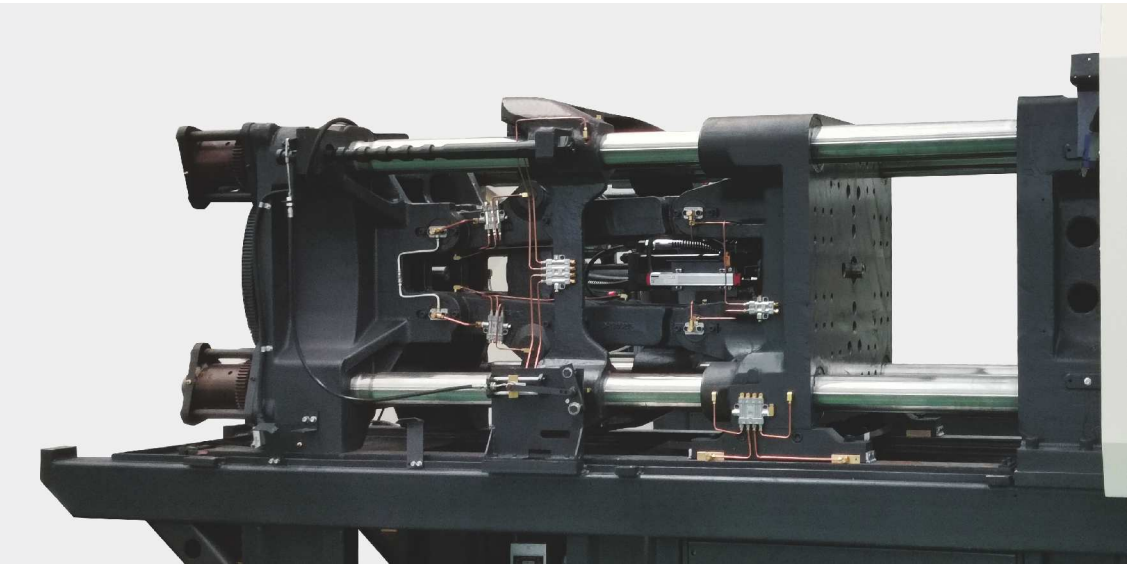
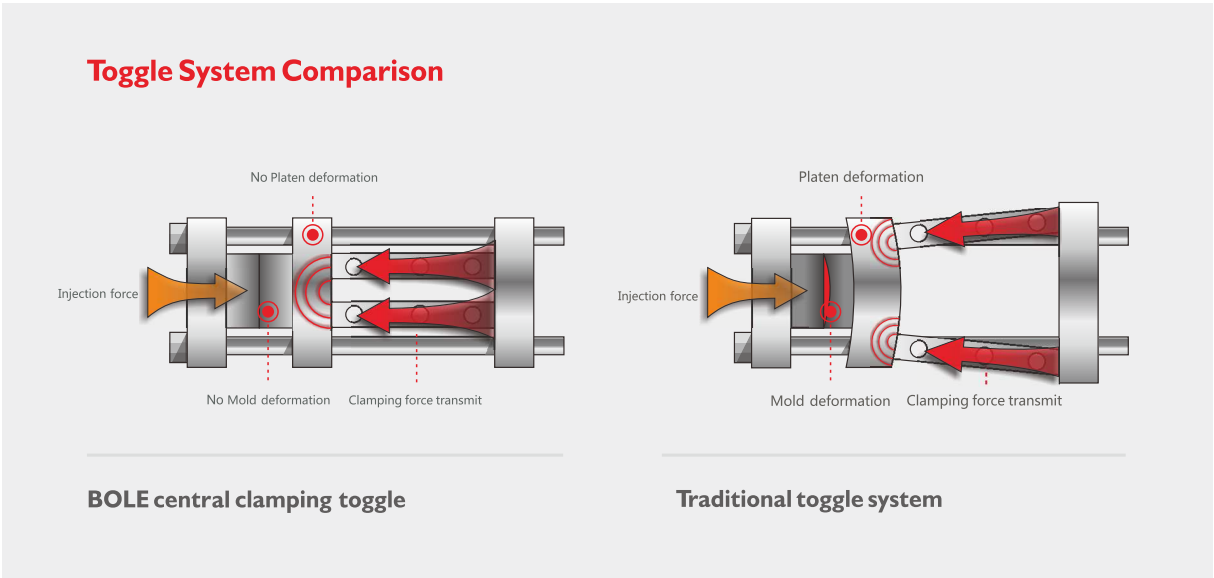


Plastic pipe fittings



Septic tank

Invention Patent, Central Clamping Toggle



01 High clamping force efficiency

After sample survey, clamping force efficiency of BOLE central clamping toggle design can reach 100%, and traditional edge clamping toggle design, clamping force efficiency only can reach 80-85%.

02 Material Saving

BOLE central clamping toggle design can save 2-5% material for 80% of customers mould (comparing to traditional edge clamping toggle design).

**03 High accuracy
Less possibility of flash**

Mold open&close positioning accuracy : $\pm 1\text{ mm}$
Injection weight accuracy : $\leq 0.5\%$
Less possibility of flash, save flash trim work.

04 Offer good protection to mould and platens

New designed clamping structure ,
bear averaged force ,Less platen distortion , effectively extend mould life.

05 Big open stroke

Larger open&ejection stroke comparing with other brand, much easier to install larger mould (especially for deep cavity mould).

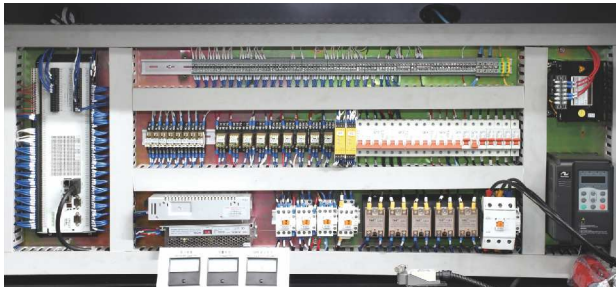
Central Clamping Toggle,invention patent in China

- Fully optimizd hydraulic system, the system pressure rises to 17.5MPa, improved injection pressure.

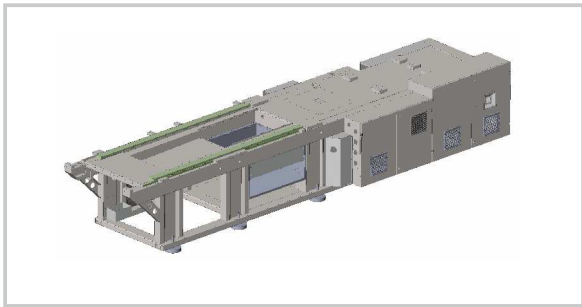


- Third generation of hydraulic servo system, energy saving, the system response time is shorter. According to GB/T30200-2013 standard test, all types of BOLE machines meet the requirement of CLASS I-energy consumption $\leq$ 0.4KW.

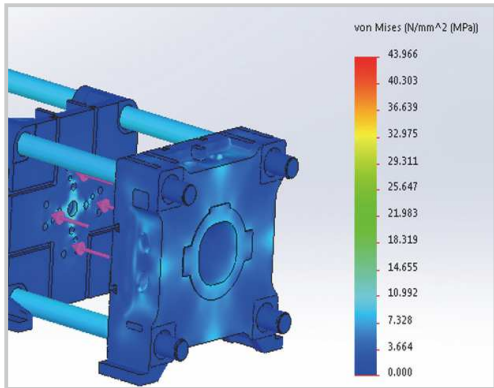
- Optimized electrical cabinet design, conform to GB, CE, UL, KCS or other safety standard.
- Electrical parts from famous international manufacturers, ensure machine with reliable performance.
- EST controller is Standard.



- The rigidity of mechanical part is improved, reasonable distribution of bearing point.



- The ridigity of clamping part is improved, further prolong the life time of machine.



- Plasticizing system originated from Germany design, and its efficiency improve 20% above the performance of other Chinese manufacturers. (Common plastic materials ABS, PS, PP,etc.)
- Meet Custom-made requirement for complex technical process and special plasticizing solutions.



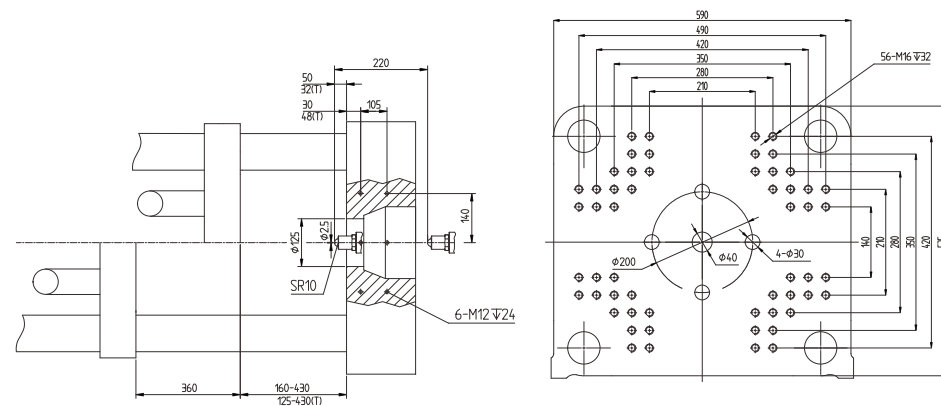
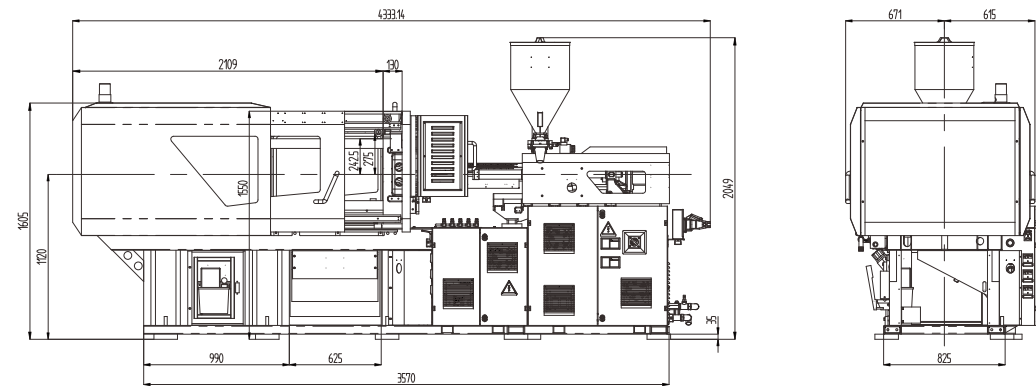
Technical Data

DESCRIPTION	UNIT	BL120EKH/C360			BL160EKH/C490			BL200EKH/C700			BL250EKH/C980			BL300EKH/C1600			BL400EKH/C2400		
International specification		360			490			700			980			1600			2400		
Screw specifications		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Screw diameter	mm	32	36	40	36	40	45	40	45	50	45	50	55	55	60	65	62	68	75
Screw L/D ratio		23	22	20	23	21	19	23	21	19	23	22	20	23	22	20	23	23	21
Theoretical injection capacity	cm³	153	193	239	214	264	334	301	382	471	429	530	641	748	890	1045	1086	1307	1590
Shot weight (PS)	g	141	178	220	197	243	307	277	351	433	395	487	590	688	819	961	999	1202	1462
	oz	5.0	6.3	7.8	6.9	8.6	10.9	9.8	12.4	15.3	14.0	17.2	20.8	24.3	28.9	34.0	35.3	42.5	51.7
Max. injection rate into Air	cm³/s	96	122	150	127	156	198	155	197	243	200	247	299	267	317	373	334	401	488
Max. injection rate into Air	g/s	87	111	137	115	142	180	141	179	221	182	225	272	243	289	339	304	365	444
Injection pressure	Mpa	239	189	153	230	186	147	235	185	150	230	186	154	219	184	157	219	182	149
Theoretical plasticizing speed	g/s (PS)	11	14	19	16	21	29	18	25	33	27	35	43	41	55	69	47	59	85
Injection stroke	mm	190			210			240			270			315			360		
Max. injection speed	mm/s	119			125			124			126			112			111		
Max. screw speed	r/min	221			240			210			221			210			175		
Sys. Pressure	Mpa	17.5			17.5			17.5			17.5			17.5			17.5		
Pump Motor (min~max)	kW	8.9~13.4			13.4~15.3			16.4~17.1			20.5~22.4			26.7~29.9			37~40.9		
Number of Motors	pc	1			1			1			1			1			1		
Pre-plasticizing motor power		optional			optional			optional			optional			optional			optional		
Heater power	kW	8.05			9.45			12.85			14.67			19.7			26.85		
Number of temp. control zones		3+1			3+1			3+1			4+1			4+1			4+1		
Clamping force	kN	1200			1600			2000			2500			3000			4000		
Opening stroke	mm	360			420			480			530			590			660		
Space between tie bar	mm x mm	405×355			455×405			505×455			555×505			655×605			710×660		
Min. mould height	mm	160 (125)			180 (145)			200 (165)			220 (175)			250(205)			270 (225)		
Max. mould height	mm	430 (430)			500 (500)			530 (530)			570(570)			660(660)			710 (710)		
Max. Daylight	mm	790 (790)			920 (920)			1010 (1010)			1100(1100)			1250 (1250)			1370 (1370)		
Ejector stroke	mm	120			140			150			150			190			190		
Ejector force forward	kN	34			49			49			67			67			123		
Ejector force back	kN	22			37			37			39			39			82		
Number of ejector bar	PC	5			5			5			9			13			13		
Dry cycle time	s	3.1			2.4			2.5			3.3			2.8			3.6		
Energy consumption	kW,h/kg	≤0.4 (1级)			≤0.4 (1级)			≤0.4 (1级)			≤0.4 (1级)			≤0.4 (1级)			≤0.4 (1级)		
Hopper capacity	kg	25			25			25			50			50			50		
Oil tank capacity	L	125			165			205			255			345			375		
Machine dimensions (L×W×H)	m x m x m	4.4x1.3x2.1			4.9x1.4x2.1			5.2x1.4x2.2			5.7x1.5x2.4			6.3x1.7x2.5			7x1.8x2.5		
Machine weight	Ton	3.2			3.8			4.9			6.3			8.3			11		

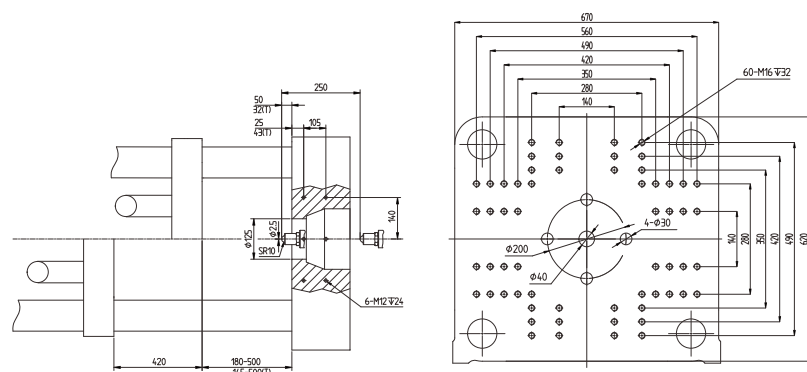
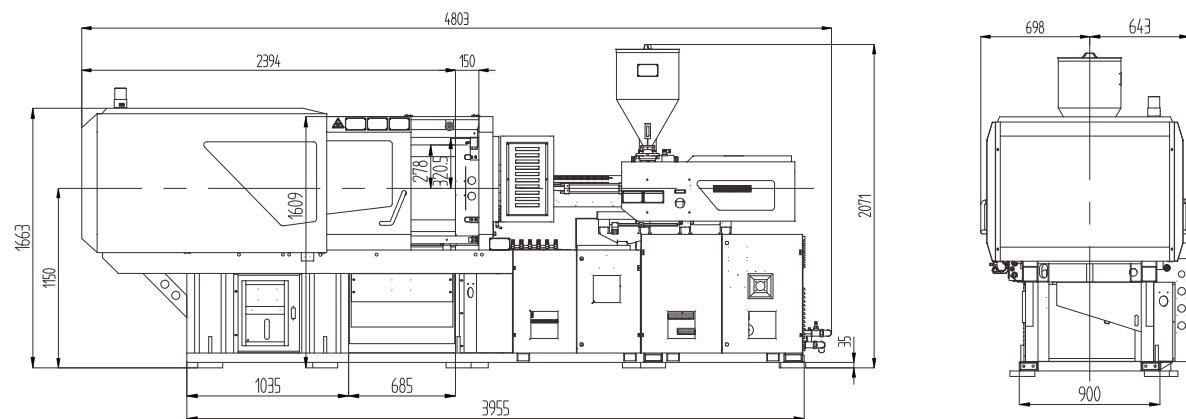
Technical Data

DESCRIPTION	UNIT	BL450EKH/C3100			BL530EKH/C4000			BL600EKH/C4700			BL700EKH/C5800			BL800EKH/C8600			BL900EKH/C8600			BL1000EKH/C10500		
International specification		3100			4000			4700			5800			8600			8600			10500		
Screw specifications		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Screw diameter	mm	70	75	85	75	80	90	80	90	100	85	95	105	95	105	115	100	110	120	110	120	130
Screw L/D ratio		23	21	19	22	21	19	24	21	19	23	21	19	23	21	19	23	21	19	23	21	19
Theoretical injection capacity	cm³	1462	1678	2155	1943	2211	2798	2286	2893	3572	2836	3542	4327	3861	4717	5658	4278	5177	6161	5652	6726	7894
Shot weight (PS)	g	1345	1544	1983	1787	2034	2574	2103	2662	3286	2609	3259	3981	3552	4339	5205	3936	4763	5668	5199	6188	7262
	oz	47.5	54.5	70.1	63.2	71.9	91.0	74.3	94.1	116.1	92.2	115.2	140.7	125.5	153.3	183.9	139.1	168.3	200.3	183.7	218.7	256.6
Max. injection rate into Air	cm³/s	430	493	634	558	635	804	707	895	1105	708	884	1080	816	997	1196	904	1094	1302	985	1172	1375
Max. injection rate into Air	g/s	391	449	576	508	578	731	644	815	1106	644	805	983	743	907	1088	823	996	1185	896	1066	1252
Injection pressure	Mpa	212	185	144	209	184	145	206	163	132	206	165	135	223	183	152	202	167	140	185	156	133
Theoretical plasticizing speed	g/s (PS)	66	79	101	81	96	132	100	138	177	92	132	177	149	200	256	172	230	292	166	211	248
Injection stroke	mm	380			440			455			500			545			545			595		
Max. injection speed	mm/s	112			126			141			125			115			115			104		
Max. screw speed	r/min	164			168			175			150			169			169			122		
Sys. Pressure	Mpa	17.5			17.5			17.5			17.5			17.5			17.5			17.5		
Pump Motor (min~max)	kW	47.2~50.7			60.5~65			75.1~81.8			75.1~81.8			92.6~101.4			92.6~101.4			92.6~101.4		
Number of Motors	pc	1			2			2			2			2			2			2		
Pre-plasticizing motor power		optional			optional			optional			optional			optional			optional			optional		
Heater power	kW	29.2			32.15			36.3			44.85			45.5			49.7			60.8		
Number of temp. control zones		4+1			5+1			5+1			5+1			5+1			5+1			6+1		
Clamping force	kN	4500			5300			6000			7000			8000			9000			10000		
Opening stroke	mm	750			850			900			970			1050			1120			1150		
Space between tie bar	mm x mm	760×710			860×800			910×855			955×855			1055×955			1110×1010			1160×1060		
Min. mould height	mm	330			330			380			400			450			450			480		
Max. mould height	mm	780			850			910			960			1000			1100			1160		
Max. Daylight	mm	1530			1700			1810			1930			2050			2220			2310		
Ejector stroke	mm	210			210			220			260			270			300			300		
Ejector force forward	kN	123			123			123			166			166			232			248		
Ejector force back	kN	82			82			82			117			117			132			165		
Number of ejector bar	PC	13			13			21			21			21			21			21		
Dry cycle time	s	3.7			4.3			4.4			3.8			4.5			5.6			7.0		
Energy consumption	kW,h/kg	≤0.4 (1级)			≤0.4 (1级)			≤0.4 (1级)			≤0.4 (1级)			≤0.4 (1级)			≤0.4 (1级)			≤0.4 (1级)		
Hopper capacity	kg	50			100			100			100			100			100			100		
Oil tank capacity	L	430			600			810			890			960			960			1320		
Machine dimensions (L×W×H)	m x m x m	7.7×1.9×2.6			8.3×2.1×2.9			9.1×2.2×2.9			9.6×2.3×3			10.4×2.5×3.1			10.8×2.6×3.1			10.9×2.9×4.2		
Machine weight	Ton	12.5			16.9			22			25			30			38			45		

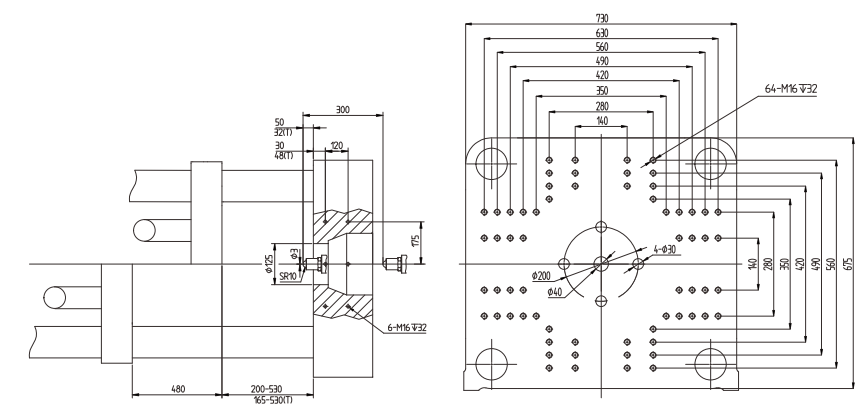
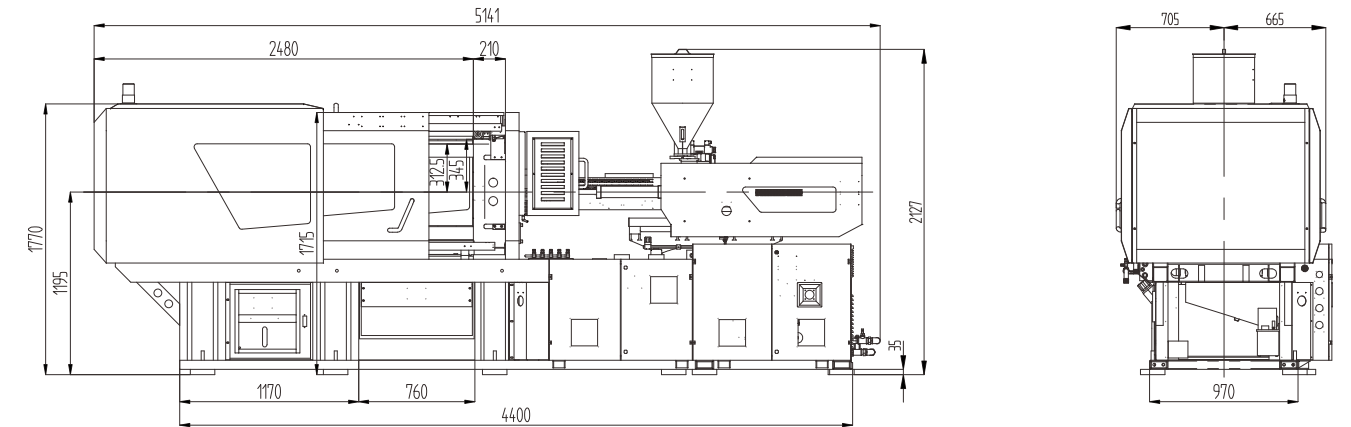
Machine Dimensions & Platen Dimensions



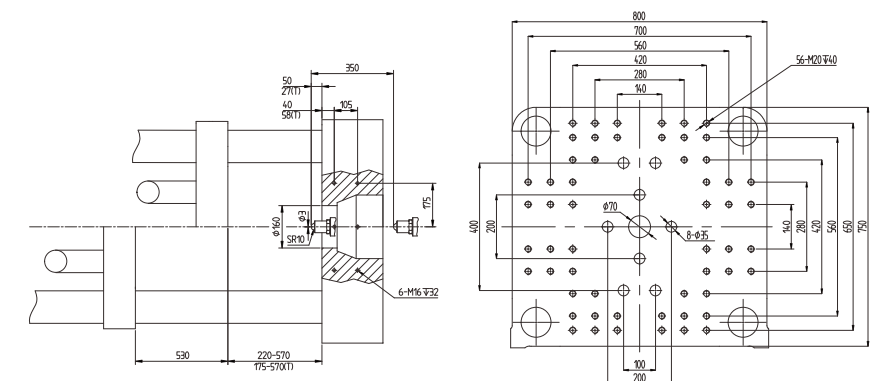
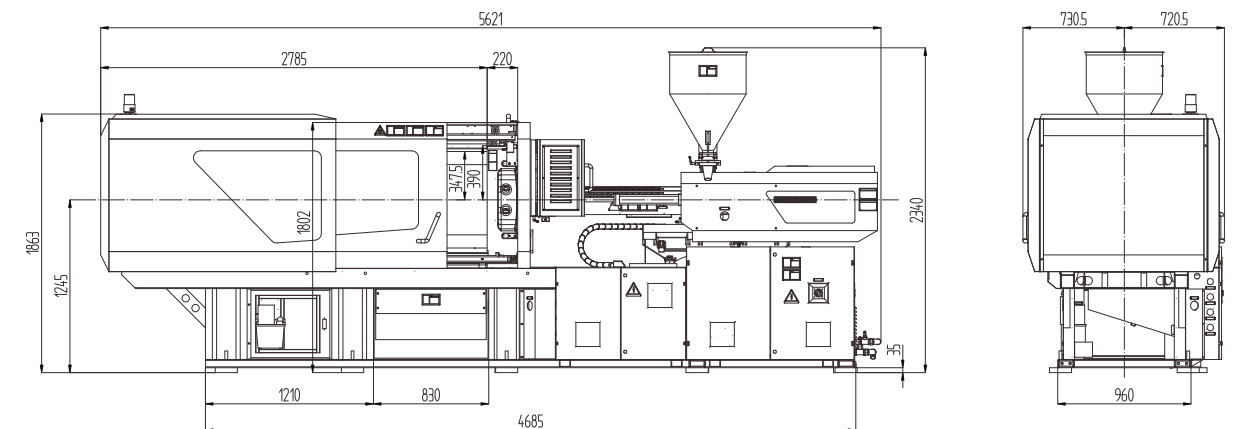
BL120EKH



BL160EKH

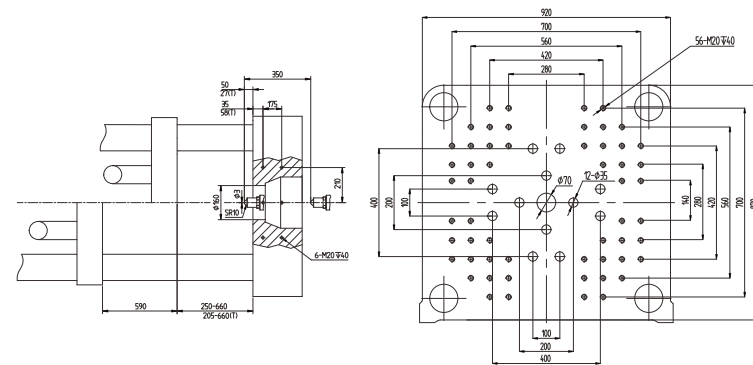
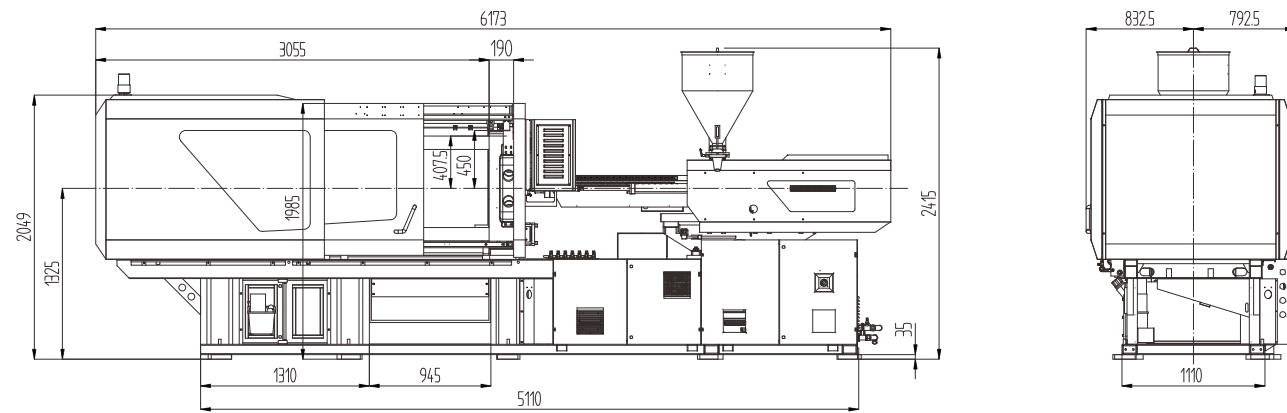


BL200EKH

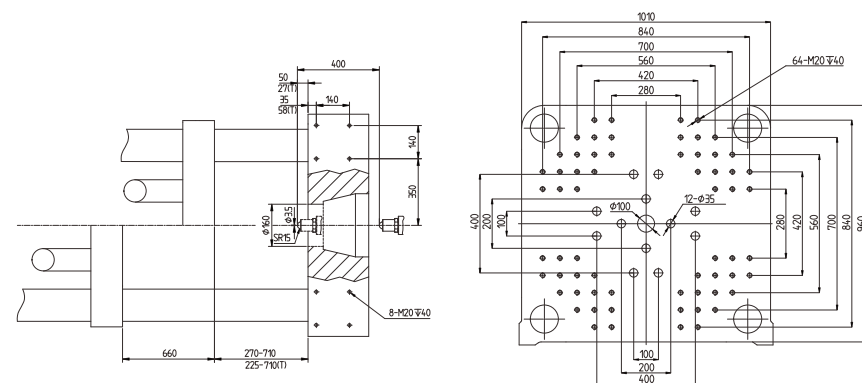
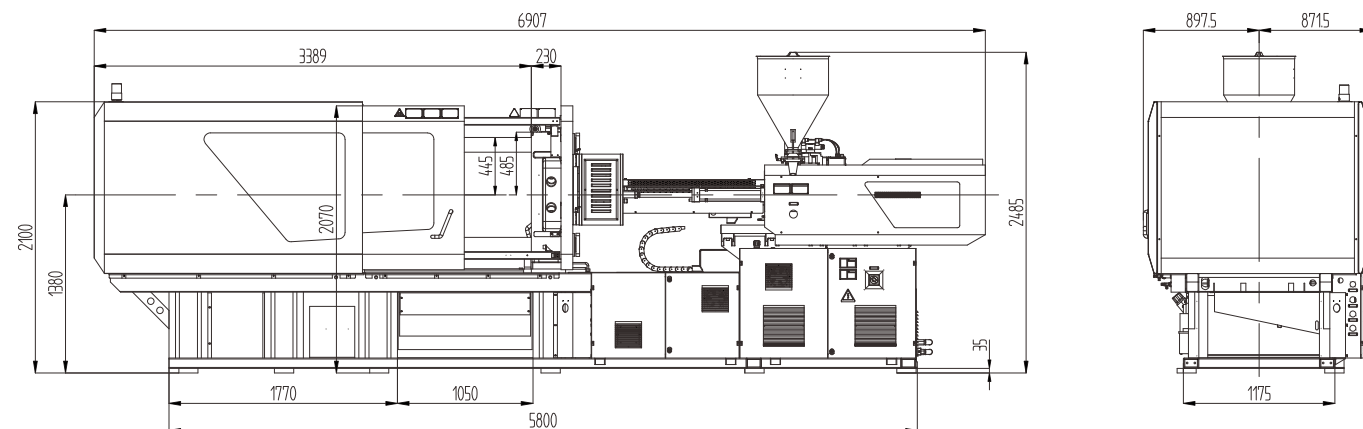


BL250EKH

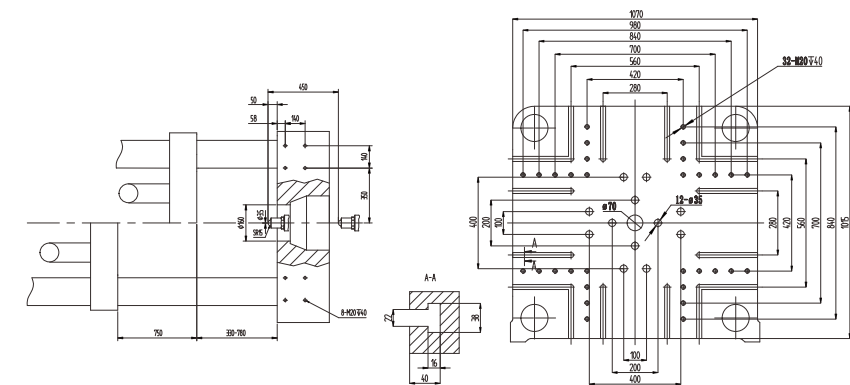
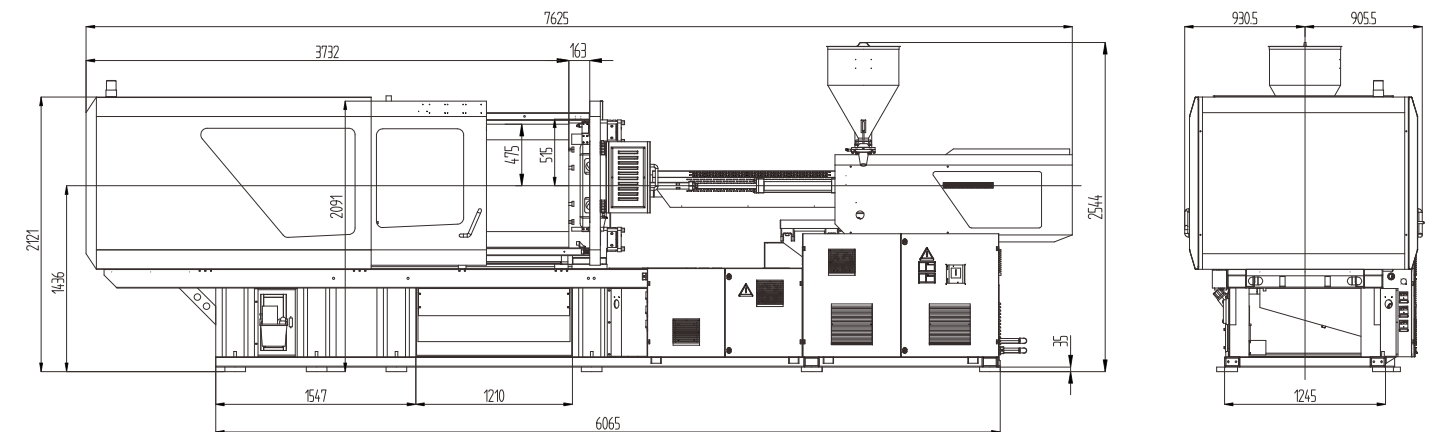
Machine Dimensions & Platen Dimensions



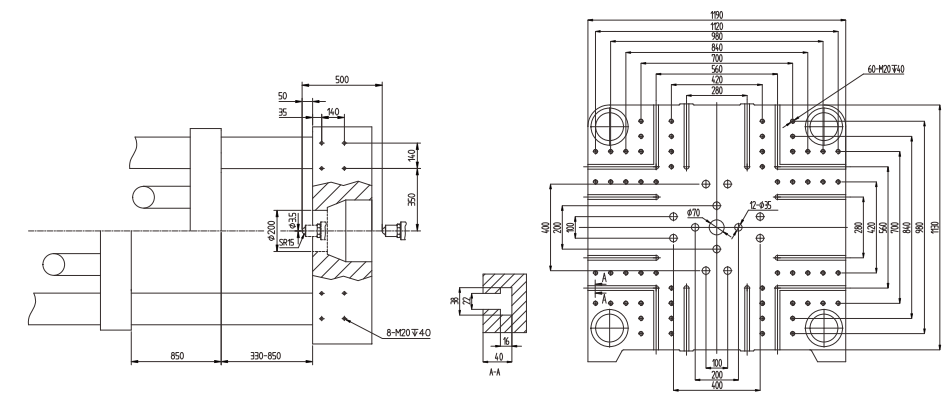
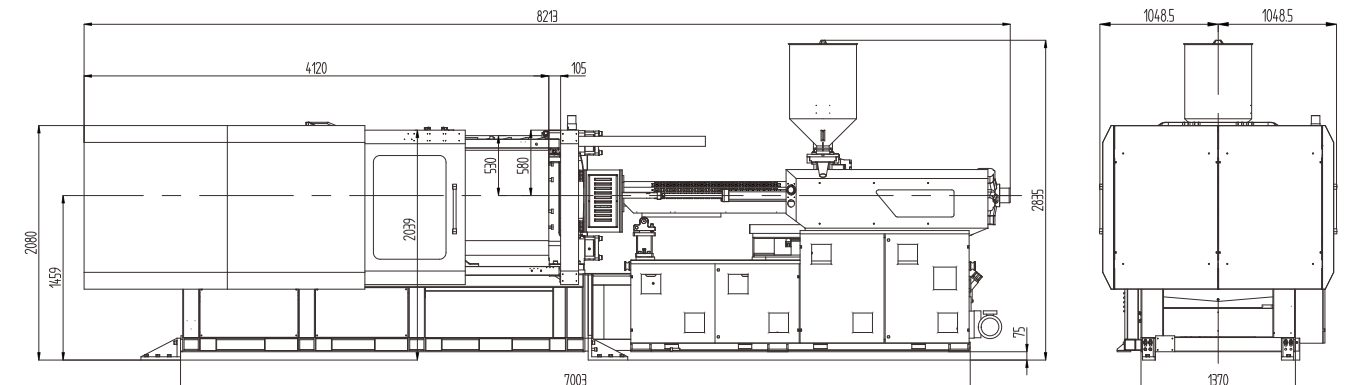
BL300EKH



BL400EKH

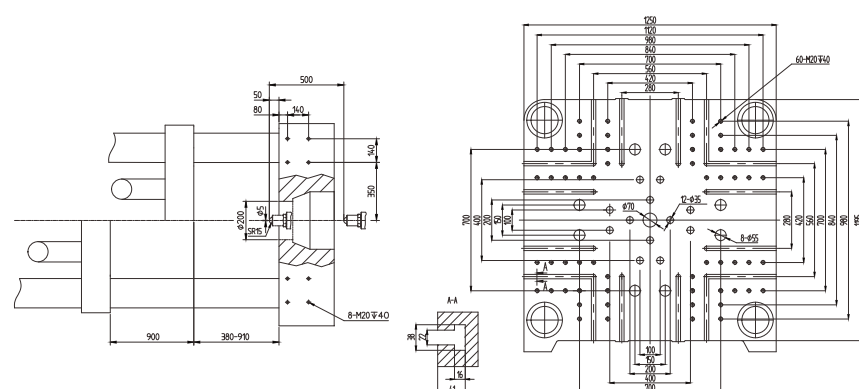
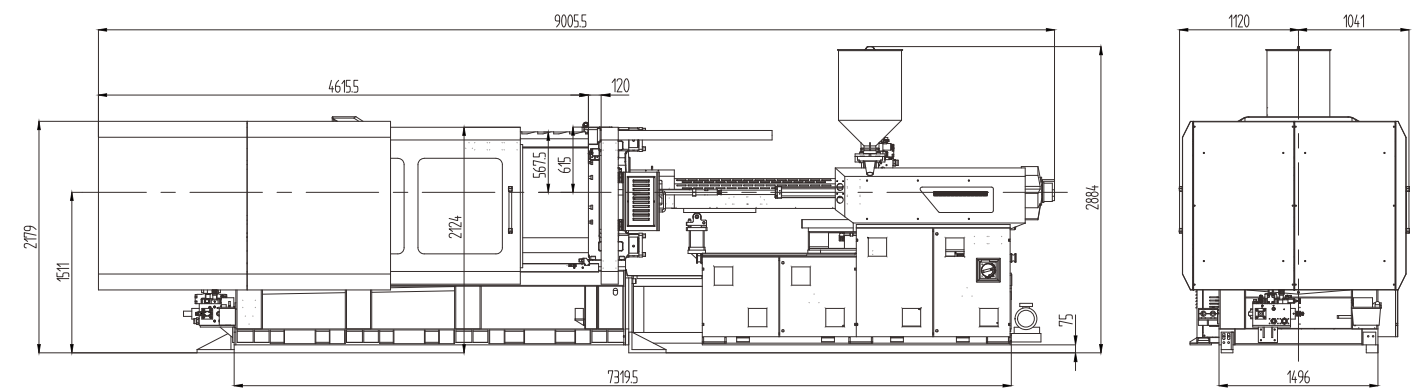


BL450EKH

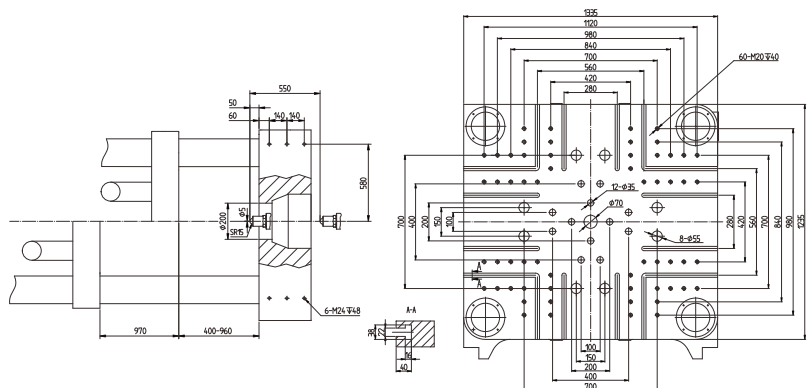
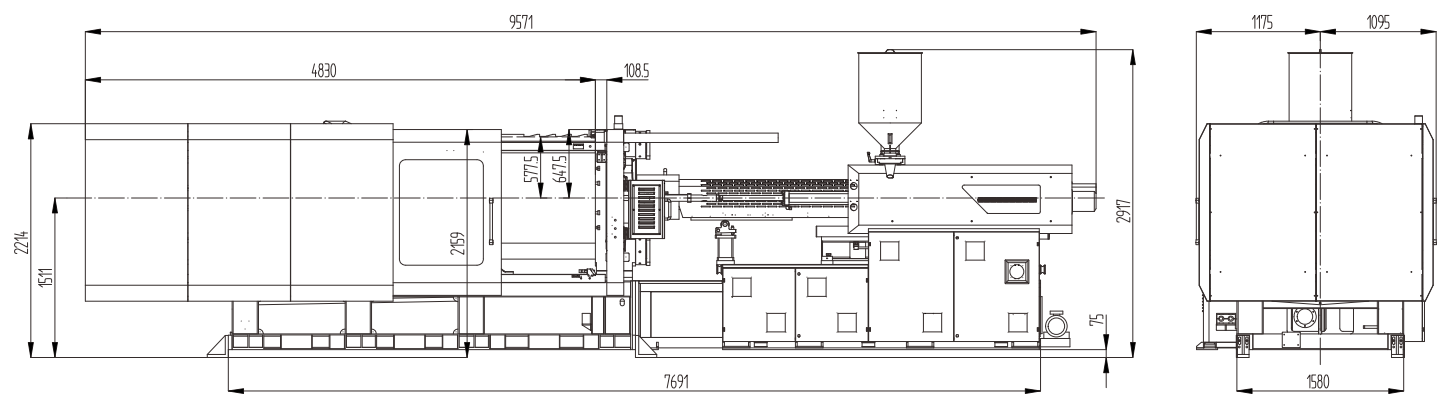


BL530EKH

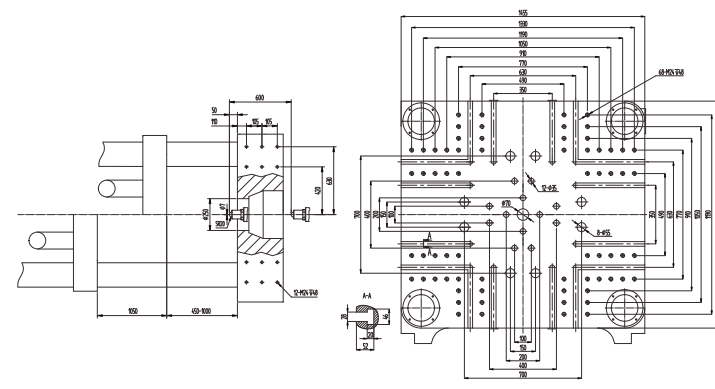
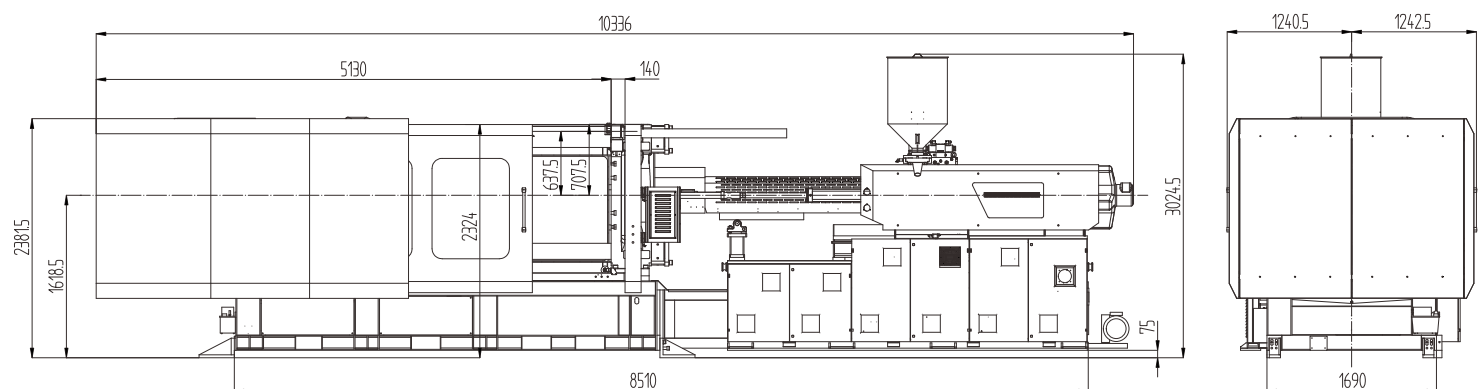
Machine Dimensions & Platen Dimensions



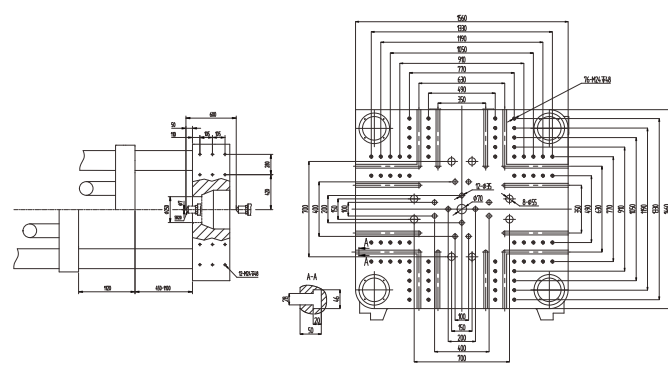
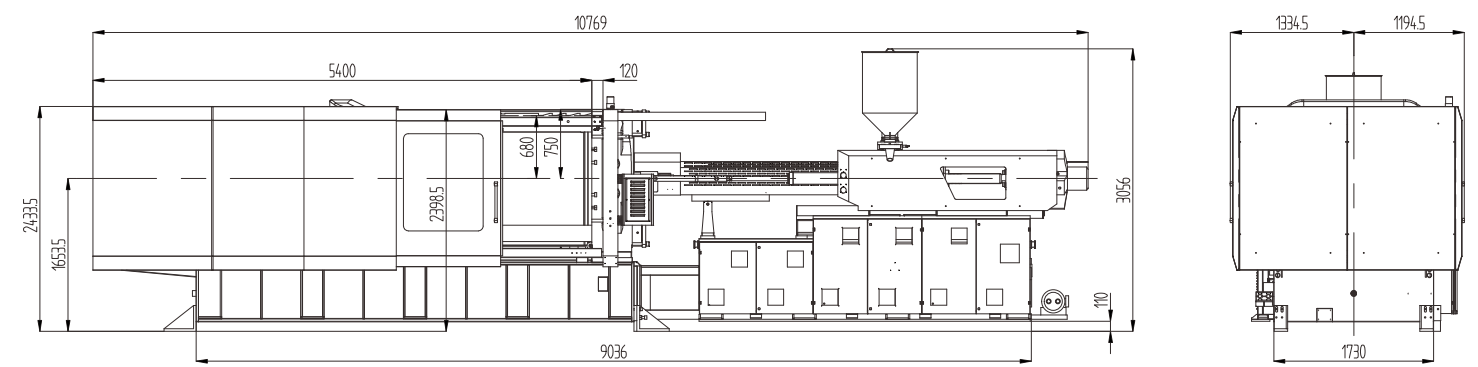
BL600EKH



BL700EKH



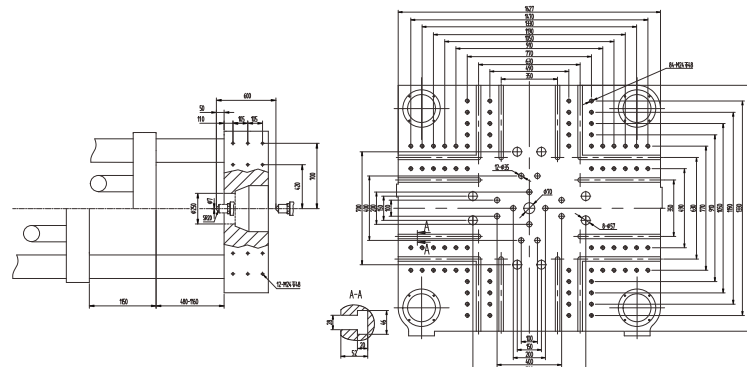
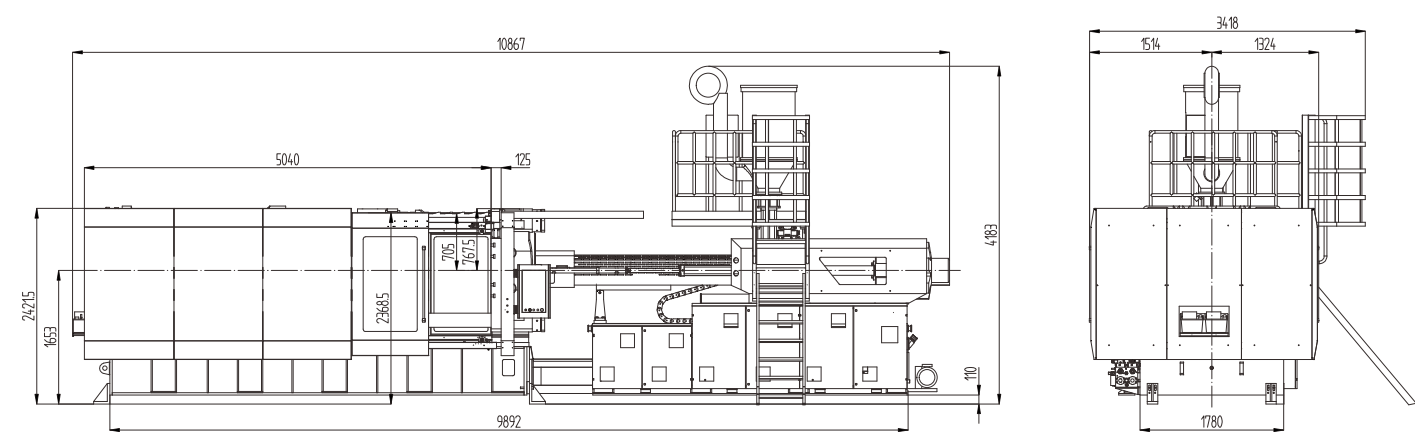
BL800EKH



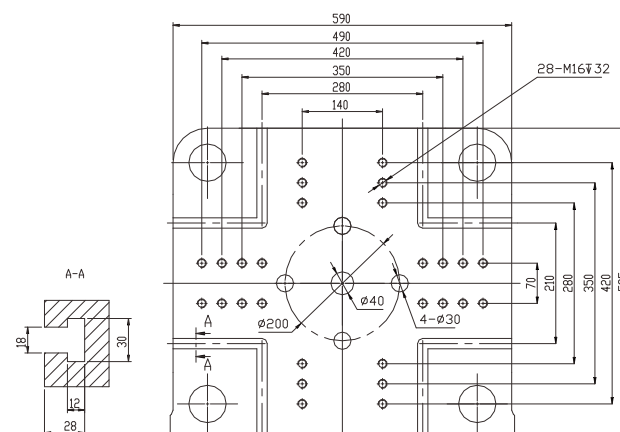
BL900EKH

Machine Dimensions & Platen Dimensions

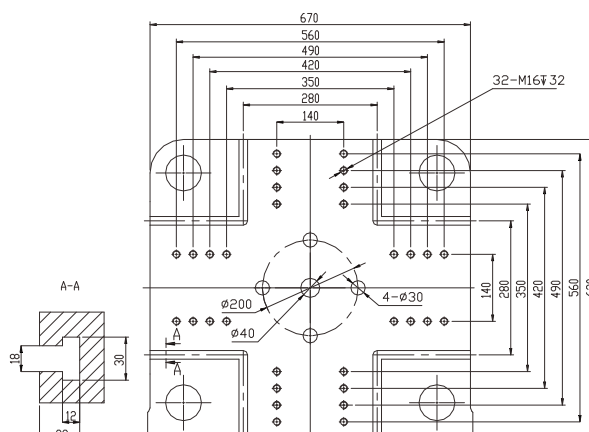
EKH Platen Dimensions Optional



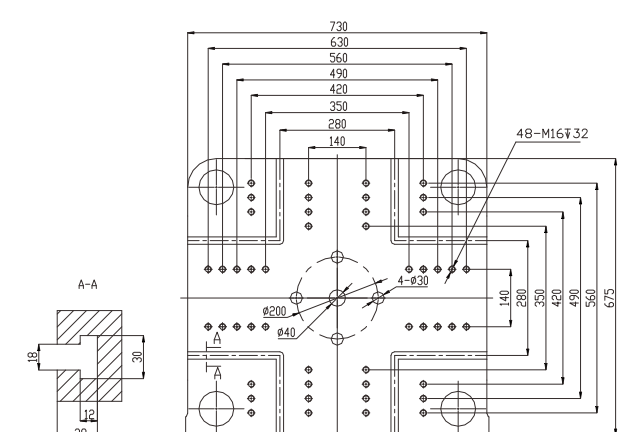
BL1000EKH



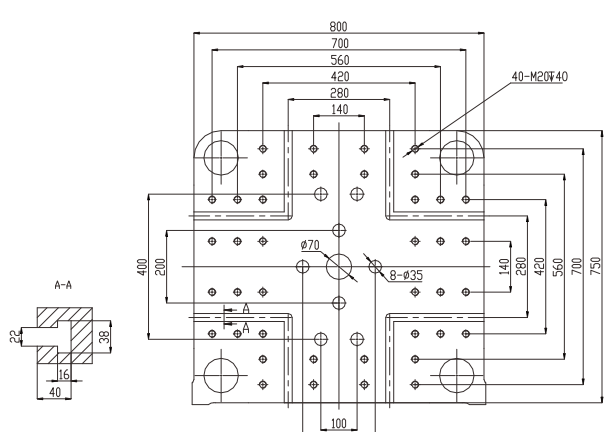
BL120EKH



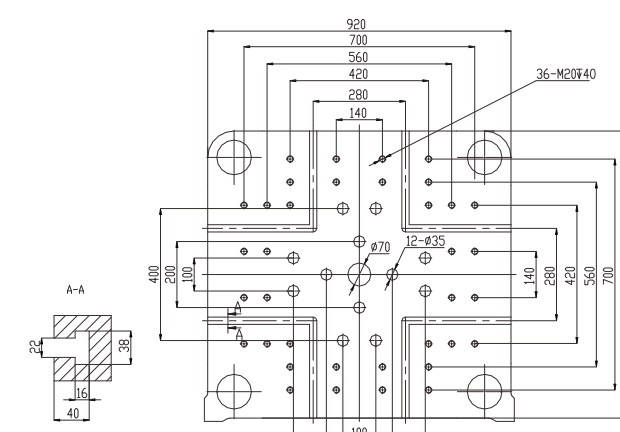
BL160EKH



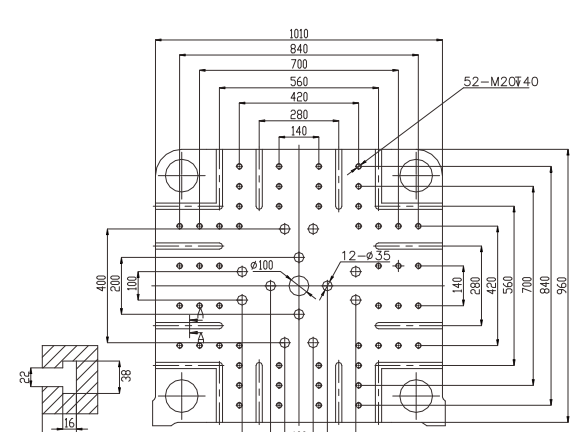
BL200EKH



BL250EKH



BL300EKH



BL400EKH

Configuration List

Standard Configuration Menu of BL EKH series			
Clamping Unit		Hydraulic Unit	
>> Patent of the five point outside mould clamping mechanism with big opening stroke		>> Servo energy-saving system	
>> Wide platen design, can adapt to a larger size mould		>> Oil temperature deviation automatic alarm	
>> Low-pressure mould protect with high precision		>> Motor overload protection function	
>> Hydraulic motor drive gear automatic mould high adjust mode		>> Core pulling device-BL120-700EKH standard one, reserving one(moving); BL800-1000EKH standard two(moving and fixed),reserving one(moving)	
>> Adjustable moving platen support structure, reduce the tie bar deformation		>> Quick insert mold cooling water(□ 10) BL120-250EKH standard one 4-4, BL300-450EKH standard one 6-6,BL530-900EKH standard one 9-9,	
>> Mechanical, electrical, hydraulic two/three safety protection devices		BL1000EKH standard one 9-9+one 8-8	
>> Open and close mold, ejection movement with high precision transducer control		>> BL530EKH above with self sealing oil suction filters	
>> A variety of optional ejection patterns, pressure, speed setting respectively			
>> Five period of opening and closing mode speed and pressure can be adjusted			
>> Automatic detector volumetric centralized lubrication system			
>> Automatic safety door control(BL700-1000EKH)			
Injection Unit		Electrical Control Unit	
>> High quality nitride steel efficient plasticizing screw barrel		>> Process parameters of presetting function	
>> Time delay setting for cold start on screw, timing heating, automatic heat preservation function		>> Have value reference and online operating instructions auxiliary function	
>> High quality high torque hydraulic motor for plasticizing		>> Simple robot interface	
>> Automatic detection of the nozzle choke and the raw materials overfeeding checkup function selection by the user self-control independently.		>> Parameter data protection lock	
>> Twin injection cyclinder design		>> PID automatic temperature control, realizes the cylinder temperature self-correcting	
>> High rigid beam supporting structure		>> USB interface, easy backup panel application update and mould parameters save	
>> The trimming device of the nozzle		>> Have stop memory function, random can store 200 sets mould data	
>> Injection stroke control with precise transducer		>> 100 groups of alarm and 100 groups of modification record	
>> Six stages of injection,five stages of holding pressure,five stages of charging,pressure/speed can be adjusted		>> Multi-level password settings to prevent the error revising / changing unintentionally and the user could be freely authorized the qualifier to access the related password level as request.	
>> Screw rotation speed detection		>> Input and output point inspection and I/O online simulation function, and can confirm the machine status quickly	
>> "Auto Purge" function for cleaning the barrel function		>> Multiple sets of backup sockets 5 core 32A×1+5 core 16A×1+ 3 core multi function×1	
>> Proportional back pressure		>> BL120-450EKH with the hopper and drop out magic eye	
>> Attached to the extended nozzle(BL120-700EKH:50mm longer;BL800-1000EKH:100mm longer)		>> Emergency stop front	
>> BL1000EKH with central lubrication for inject unit		>> Alarm lamp with buzzer optional	
>> BL1000EKH with feeding platform			
		Others	
		>> Standard machine color of Bole	
		>> Adjustable level pad	
		>> Spare parts tool box	
		>> Common tools	
		>> Vulnerable parts	

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Optional Configuration Menu of BL EKH series			
Clamping Unit		Injection Unit	
>> Bigger mould height		>> Increase/decrease of shot volume	
>> Bigger eject force		>> Bigger / smaller plasticizing motor	
>> Bigger eject stroke		>> Chrome plating/bimetallic screw components	
>> Wider machine cover& door		>> PVC,PET,PC,PA,bakelite,etc all kinds of special plasticizing unit	
>> With mould open mechanical limit		>> Pneumatic/hydraulic/spring self-locking nozzle	
>> With mould heat shield plate		>> Accumulator inject(ACC)	
>> Non-standard mould screw holes(Japanese standard, SPI, ect.)		>> Gas-assisted/wit interface	
>> T slot platen(120-400EKH)		>> Sequential injection device	
>> Mould hanging formwork		>> Differential high-speed injection device	
>> Hydraulic/electric rotating demould device (twisted tooth device)		>> Hot runner control built in	
Hydraulic Unit		Optional Auxiliary	
>> Increase/decrease power system		>> Robot	
>> Increase the oil cooler		>> Hopper dryer	
>> The hydraulic/pneumatic core-pulling device		>> Dehumidifier	
>> Pneumatic ejection device		>> Crusher	
>> Simultaneous ejection/core-pulling device		>> Mould temperature controller	
>> Simultaneous plasticizing		>> Magnetic shelf	
>> The oil temperature automatic control function		>> Auto-loader	
>> The oil temperature preheating function		>> Mould cooling flow meter glass tube	
>> Equipped with hydraulic/pneumatic core-pulling device			
>> Install bypass filter			
		Electrical Control Unit	
		>> The (Euro map) robot interface	
		>> IML interface	
		>> Change the voltage and frequency	
		>> The change of control system	
		>> Add working lamp	
		>> Hot runner controllers	

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