The Passionate Pursuit of Perfection

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THIS VERSION WAS PRINTED IN JUNE 2016,
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BOLE RULER

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BOLE 伯乐塑机

Injection Moulding Machine

EKⅡ Series

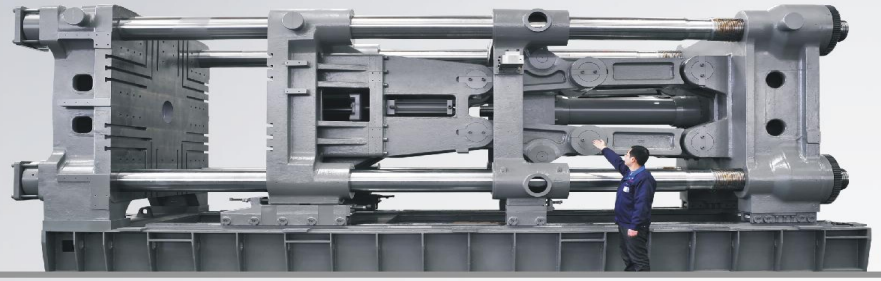
Servo energy saving injection moulding machine

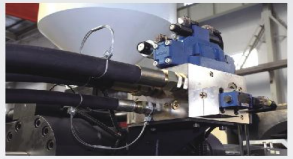
NINGBO BOLE INTELLIGENT EQUIPMENT CO.,LTD.

NR12

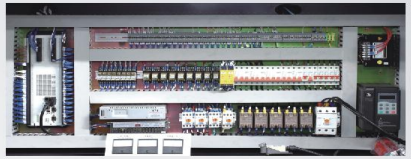
EKII series center clamping structure obtained the national invention patent of China

(Patent No : ZL2011 10250342.5)





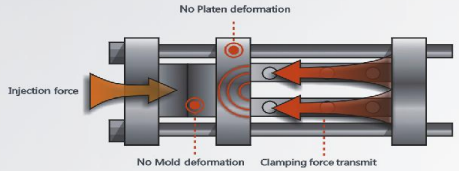
- Fully optimized hydraulic system, efficiency 10% higher than last series(Standard EK).
- Hydraulic parts from famous international manufacturers, ensure machine with reliable performance.
- Conform to GB, CE, UL, KCS or other safety standard.



- 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.
- Advanced PLC(KEBA, BECKHOFF, etc.), available as option.

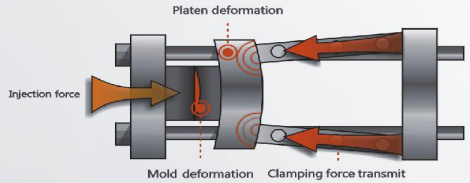
- World leading screw plasticizing set design with technology from Europe.
- Screw for special purposes(PC, PMMA, POM, etc.) available as option.
- Customized plasticizing set available for special application.

Clamping performance comparison



BOLE centre clamping structure

- 100% clamping force use, 10% - 20% higher than traditional toggle structure.
- Less possibility of flash, save flash trim work.
- Save 2- 5% material.
- Offer good protection to mould, platens and tie bars.
- Opening stroke 10- 20% longer.



Traditional structure

- With heavy clamping force waste, only 80- 85% efficiency.
- Moving platen with obvious deformation, cause flashes, waste of material and labor of trim the flashes.

After sample survey, we conclude BOLE central clamping toggle design can save 2- 5% material for 80% of customers' mould (comparing to traditional edge clamping toggle design)

Big Parameter one grade bigger than most other Chinese machines.

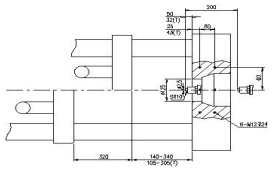
Precise Finished products with high precision.

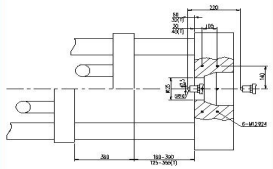
Save Save 2- 5% material for customers.

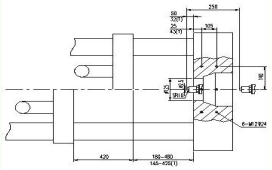
BL70EKII-BL350EKII Series Technical Parameters

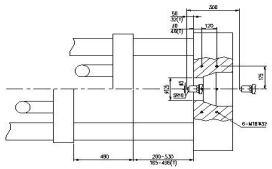
DESCRIPTION	UNIT	BL70EKII/C160			BL100EKII/C320			BL140EKII/C430			BL170EKII/C610			BL230EKII/C840			BL280EKII/C1400			BL350EKII/C1800		
Injection Unit																						
Injection capacity		160			320			430			610			840			1400			1800		
Screw type		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Screw diameter	mm	25	28	32	32	36	40	36	40	45	40	45	50	45	50	55	55	60	65	60	65	70
Screw L/D ratio		23	20	18	23	20	18	23	20	18	23	20	18	22.5	20	18	23	21	19.5	23	21	19.5
Theoretical injection capacity	cm^3	71	89	117	145	183	226	204	251	318	283	358	442	398	491	594	689	820	962	905	1062	1232
Shot weight (PS)	g	65	82	107	133	169	208	187	231	293	260	329	406	366	452	546	634	754	885	832	977	1133
(PS)	oz	2.3	2.9	3.8	4.7	5.9	7.3	6.6	8.2	10.3	9.2	11.6	14.3	12.9	15.9	19.3	22.4	26.6	31.2	29.4	34.5	40.0
Injection rate into Air	cm^3/s	62	78	102	80	102	126	106	131	166	131	165	204	167	207	250	224	267	313	282	331	384
Injection pressure	MPa	225	180	138	220	173	140	211	171	135	215	170	138	211	171	141	200	168	143	200	170	146
Max. injection speed	mm/s	126			100			104			104			105			94			100		
Max. Screw speed	r/min	263			220			240			210			220			210			175		
Clamping Unit																						
Clamping force	KN	700			1000			1400			1700			2300			2800			3500		
Opening stroke	mm	320			360			420			480			530			580			660		
Space between tie bars	mm×mm	360×330			410×360			460×410			510×460			560×510			660×610			710×660		
Min. mould height(T-slot)	mm	140(105)			160(125)			180(145)			200(165)			220(175)			240(195)			270(225)		
Max. mould height(T-slot)	mm	340(305)			390(355)			460(425)			530(495)			560(515)			610(565)			690(645)		
Max. distance Platen(T-slot)	mm	660(625)			750(715)			880(845)			1010(975)			1090(1045)			1190(1145)			1350(1305)		
Ejector stroke	mm	70			100			130			150			150			190			190		
Ejector force forward	kN	31			31			45			45			62			62			62		
Ejector force backard	kN	20			20			34			34			36			36			36		
Number of ejector rods	PC	5			5			5			5			9			13			13		
Power electric																						
Sys. Pressure	MPa	16			16			16			16			16			16			16		
Pump Motor	kW	9			13			17			21			25			30			37		
Heater power	kW	5.4			6.8			8.85			12.2			13.72			19.55			24.05		
Number of temp. Control zones		3+1			3+1			3+1			3+1			4+1			4+1			4+1		
Other																						
Hopper capacity	kg	25			25			25			25			50			50			50		
Oil tank capacity	L	120			150			180			230			280			350			420		
Machine dimensions (L×W×H)	m×m×m	3.5×1.15×1.7			3.9×1.22×1.85			4.5×1.26×1.85			4.97×1.42×1.88			5.5×1.45×2.15			6.1×1.58×2.2			6.75×1.7×2.25		
Machine weight	Ton	2.4			3.1			3.7			5.1			6.3			8.2			11.1		

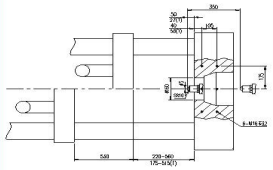
Platen Side Size

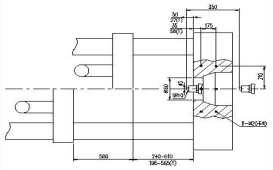


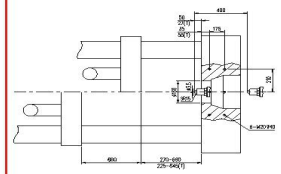












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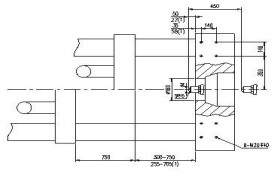
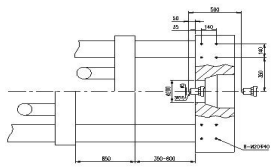
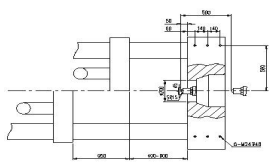
BL440EKII-BL1000EKII Series Technical Parameters

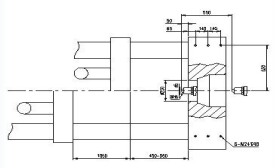
DESCRIPTION	UNIT	BL440EKII/C2400				BL520EKII/C3500				BL520EKII/C4300				BL650EKII/C4300				BL750EKII/C5400				BL850EKII/C7200				BL1000EKII/C7200			
Injection Unit																													
Injection capacity		2400				3500				4300				4300				5400				7200				7200			
Screw type		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Screw diameter	mm	65	70	75	80	70	80	85	90	80	85	90	100	80	85	90	100	85	90	100	110	90	100	110	120	90	100	110	120
Screw L/D ratio		23	21	20	18.5	24	21	20	19	22.5	21	20	18	22.5	21	20	18	22	21	19	17	23	21	19	17.5	23	21	19	17.5
Theoretical injection capacity	cm³	1211	1405	1613	1835	1597	2086	2355	2640	2287	2582	2895	3574	2287	2582	2895	3574	2837	3181	3927	4752	3467	4280	5179	6164	3467	4280	5179	6164
Shot weight (PS)	g	1114	1292	1484	1688	1469	1919	2167	2429	2104	2375	2663	3288	2104	2375	2663	3288	2610	2926	3613	4372	3190	3938	4765	5671	3190	3938	4765	5671
(PS)	oz	39.3	45.6	52.3	59.5	51.8	67.7	76.4	85.7	74.2	83.8	93.9	116.0	74.2	83.8	93.9	116.0	92.1	103.2	127.4	154.2	112.5	138.9	168.1	200.0	112.5	138.9	168.1	200.0
Injection rate into Air	cm^3/s	355	412	473	538	357	467	527	591	484	546	612	756	484	546	612	756	595	667	823	996	608	750	908	1080	608	750	908	1080
Injection pressure	MPa	197	170	148	130	220	168	149	133	189	167	149	121	189	167	149	121	188	168	136	113	208	168	139	117	208	168	139	117
Max. injection speed	mm/s	107				93				96				96				105				95				95			
Max. Screw speed	r/min	188				163				137				137				134				108				108			
Clamping Unit																													
Clamping force	KN	4400				5200								6500				7500				8500				10000			
Opening stroke	mm	750				850								950				1050				1100				1150			
Space between tie bars	mm×mm	760×710				860×800								960×860				1060×960				1120×1020				1160×1060			
Min. mould height(T-slot)	mm	300(255)				350								400				450				450				480			
Max. mould height(T-slot)	mm	750(705)				800								900				950				1000				1000			
Max. distance Platen(T-slot)	mm	1500(1455)				1650								1850				2000				2100				2150			
Ejector stroke	mm	210				210								240				270				300				300			
Ejector force forward	kN	113				113								152				152				212				227			
Ejector force backard	kN	75				75								107				107				121				151			
Number of ejector rods	PC	13				13								21				21				21				21			
Power electric																													
Sys. Pressure	MPa	16				16				16				16				16				16				16			
Pump Motor	kW	47				17+37				25+37				25+37				37+37				37+47				37+47			
Heater power	kW	27.35				32.15				36.1				36.1				42.9				50.1				50.1			
Number of temp. Control zones		4+1				5+1				5+1				5+1				5+1				5+1				5+1			
Other																													
Hopper capacity	kg	50				100				100				100				100				100				100			
Oil tank capacity	L	420				750				850				850				1000				1200				1200			
Machine dimensions (L×W×H)	m×m×m	7.46×1.77×2.3				8.1×2.2×2.6				8.5×2.22×2.7				8.8×2.22×2.7				9.6×2.65×2.7				10.2×2.7×2.9				10.9×2.75×2.9			
Machine weight	Ton	13.4				17				19				23				28				35				40			

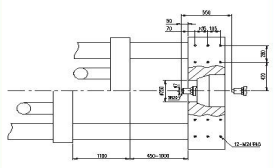
Platen Side Size

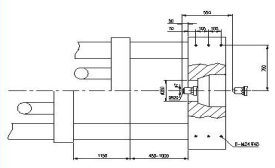












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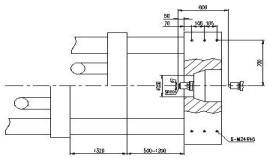
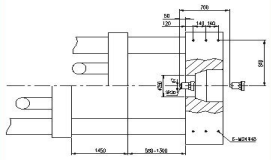
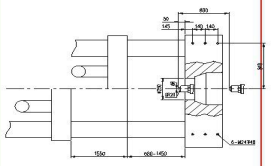
BL1200EKII-BL2500EKII Series Technical Parameters

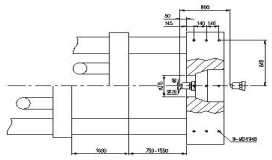
DESCRIPTION	UNIT	BL1200EKII/C9600				BL1400EKII/C12000				BL1600EKII/C15000				BL1850EKII/C18500				BL2200EKII/C23000				BL2200EKII/C28000				BL2500EKII/C28000			
Injection Unit																													
Injection capacity		9600				12000				15000				18500				23000				28000				28000			
Screw type		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Screw diameter	mm	100	110	120	130	110	120	130	140	120	130	140	150	130	140	150	160	140	150	160	170	150	160	170	180	150	160	170	180
Screw L/D ratio		23	21	19	18	23	21	19.5	18	23	21	19.5	18	23	21	20	18.5	24	22	21	19	23	22	21	20	23	22	21	20
Theoretical injection capacity	cm^3	4673	5654	6729	7898	6082	7238	8495	9852	7691	9026	10468	12017	9623	11161	12812	14577	12084	13872	15783	17818	14756	16789	18953	21248	14756	16789	18953	21248
Shot weight (PS)	g	4299	5202	6191	7266	5596	6659	7815	9064	7075	8304	9630	11055	8853	10268	11787	13411	11117	12762	14521	16393	13575	15446	17437	19548	13575	15446	17437	19548
(PS)	oz	151.6	183.5	218.4	256.3	197.4	234.9	275.7	319.7	249.6	292.9	339.7	390.0	312.3	362.2	415.8	473.0	392.1	450.2	512.2	578.2	478.8	544.8	615.0	689.5	478.8	544.8	615.0	689.5
Injection rate into Air	cm^3/s	684	827	984	1155	854	1016	1193	1384	1016	1193	1383	1588	1093	1268	1455	1656	1296	1488	1693	1911	1409	1603	1809	2028	1409	1603	1809	2028
Injection pressure	MPa	205	170	142	122	197	166	141	122	193	165	142	124	193	166	145	127	190	165	145	129	189	166	147	132	189	166	147	132
Max. injection speed	mm/s	87				90				90				82				84.2				79.7				79.7			
Max. Screw speed	r/min	93				84				74				63				56				53				53			
Clamping Unit																													
Clamping force	KN	12000				14000				16000				18500				22000								25000			
Opening stroke	mm	1320				1450				1550				1680				1850								2000			
Space between tie bars	mm×mm	1260×1120				1420×1220				1520×1320				1620×1420				1720×1520								1820×1620			
Min. mould height(T-slot)	mm	500				580				680				750				750								800			
Max. mould height(T-slot)	mm	1200				1300				1450				1550				1700								1800			
Max. distance Platen(T-slot)	mm	2520				2750				3000				3230				3550								3800			
Ejector stroke	mm	350				350				400				400				450								500			
Ejector force forward	kN	227				227				332				332				425								425			
Ejector force backard	kN	151				151				256				256				334								334			
Number of ejector rods	PC	21				29				29				29				25								33			
Power electric																													
Sys. Pressure	MPa	16				16				16				16				16				16				16			
Pump Motor	kW	47+47				37+37+37				37+47+47				47+47+47				25+47+47+47				37+47+47+47				37+47+47+47			
Heater power	kW	56.2				74.6				79.7				89.9				112.1				122.6				122.6			
Number of temp. Control zones		6+1				6+1				6+1				6+1				8+1				8+1				8+1			
Other																													
Hopper capacity	kg	200				200				200				200				400				400				400			
Oil tank capacity	L	1400				1650				2000				2250				2500				2750				2750			
Machine dimensions (L×W×H)	m×m×m	11.3×3.1×3.9				12.3×3.3×4.15				13.5×3.56×4.3				14.2×3.6×4.3				15.2×3.75×4.3				16.1×3.75×4.5				17.2×3.95×4.5			
Machine weight	Ton	50				65				85				105				130				140				160			

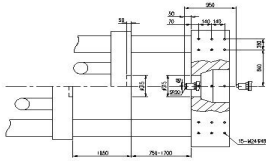
Platen Side Size

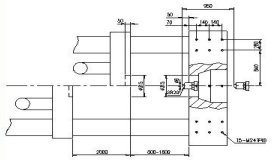












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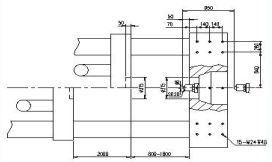
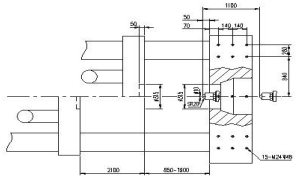
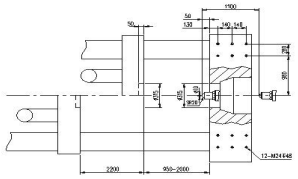
BL2500EKII-BL4000EKII Series Technical Parameters

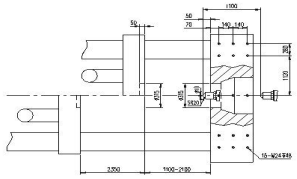
DESCRIPTION	UNIT	BL2500EKII/C41000				BL2800EKII/C41000				BL2800EKII/C70000				BL3300EKII/C70000				BL3300EKII/C90000				BL4000EKII/C90000			
Injection Unit																									
Injection capacity		41000				41000				70000				70000				90000				90000			
Screw type		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Screw diameter	mm	170	185	200	220	170	185	200	220	200	220	230	240	200	220	230	240	230	240	250	260	230	240	250	260
Screw L/D ratio		24	22	20	19	24	22	20	19	24	22	21	20	24	22	21	20	23	22	21	20	23	22	21	20
Theoretical injection capacity	cm^3	20996	24864	29060	35162	20996	24864	29060	35162	36285	43905	47987	52251	36285	43905	47987	52251	53804	58584	63568	68755	53804	58584	63568	68755
Shot weight (PS)	g	19316	22875	26735	32349	19316	22875	26735	32349	33383	40393	44148	48071	33383	40393	44148	48071	49500	53898	58483	63255	49500	53898	58483	63255
(PS)	oz	681.3	806.9	943.0	1141.1	681.3	806.9	943.0	1141.1	1177.5	1424.8	1557.3	1695.6	1177.5	1424.8	1557.3	1695.6	1746.0	1901.2	2062.9	2231.2	1746.0	1901.2	2062.9	2231.2
Injection rate into Air	cm^3/s	1443	1709	1997	2416	1443	1709	1997	2416	1816	2197	2402	2615	1816	2197	2402	2615	2511	2734	2967	3209	2511	2734	2967	3209
Injection pressure	MPa	194	164	141	116	194	164	141	116	193	160	146	134	193	160	146	134	168	154	142	131	168	154	142	131
Max. injection speed	mm/s	63.5				63.5				57.8				57.8				60.5				60.5			
Max. Screw speed	r/min	48				48				54				54				57				57			
Clamping Unit																									
Clamping force	KN	25000				28000								33000								40000			
Opening stroke	mm	2000				2100								2200								2350			
Space between tie bars	mm×mm	1820 × 1620				1920 × 1720								2110 × 1910								2420 × 2220			
Min. mould height(T-slot)	mm	800				850								950								1100			
Max. mould height(T-slot)	mm	1800				1900								2000								2100			
Max. distance Platen(T-slot)	mm	3800				4000								4200								4450			
Ejector stroke	mm	500				500								550								600			
Ejector force forward	kN	425				425								565								565			
Ejector force backard	kN	334				334								442								442			
Number of ejector rods	PC	33				33								25								25			
Power electric																									
Sys. Pressure	MPa	16				16				16				16				16				16			
Pump Motor	kW	47+47+47+47				47+47+47+47				47+47+47+47+47				47+47+47+47+47				47+47+47+47+47+47				47+47+47+47+47+47			
Heater power	kW	175.8				175.8				222.7				222.7				246				246			
Number of temp. Control zones		8+1				8+1				8+1				8+1				8+1				8+1			
Other																									
Hopper capacity	kg	400				400				400				400				400				400			
Oil tank capacity	L	3000				3000				3500				3500				4000				4000			
Machine dimensions (L×W×H)	m×m×m	18.1 × 3.95 × 5.1				18.5 × 4.15 × 5.1				19.5 × 4.15 × 5.6				20.5 × 4.45 × 5.6				21.5 × 4.45 × 6.0				22.5 × 4.65 × 6.0			
Machine weight	Ton	170				190				210				255				280				315			

Platen Side Size









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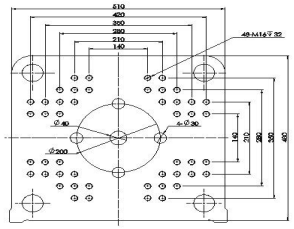
Platen Size



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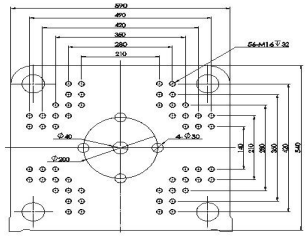

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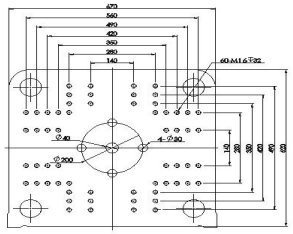

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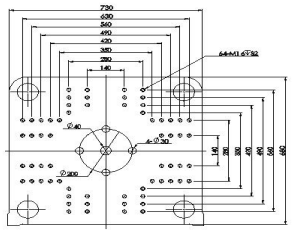

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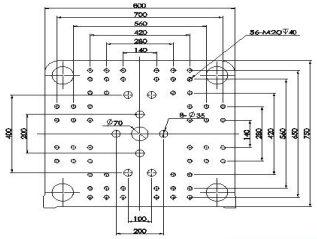

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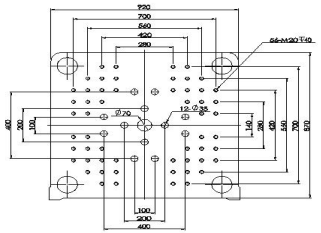

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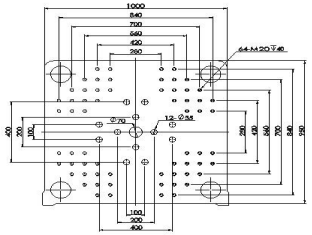

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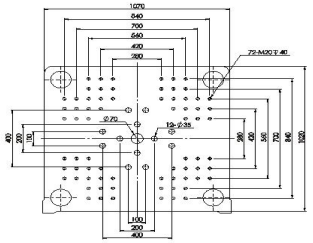

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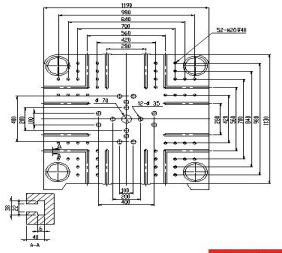

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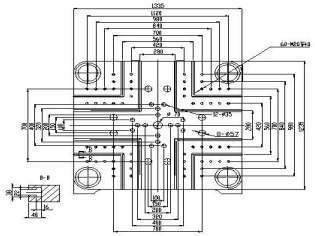

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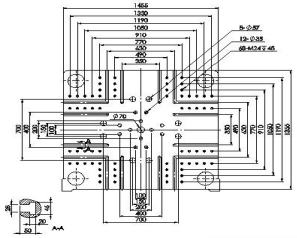

BL750EKII

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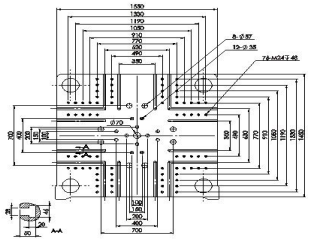
Platen Size



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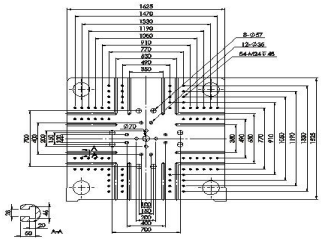

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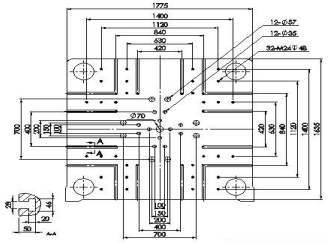

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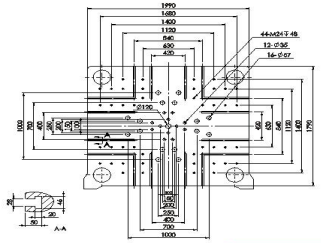

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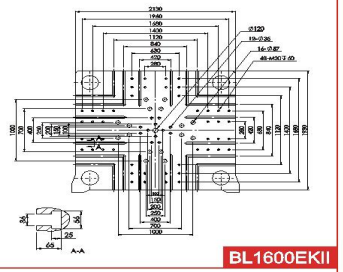

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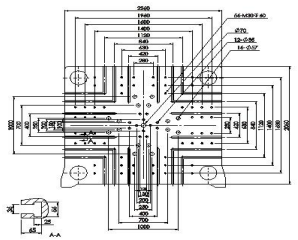

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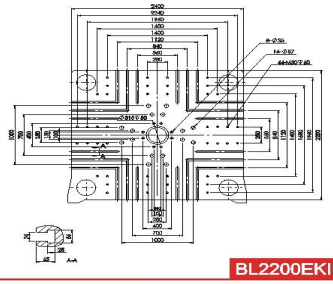

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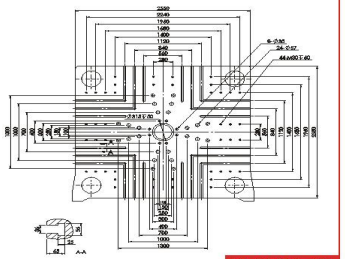

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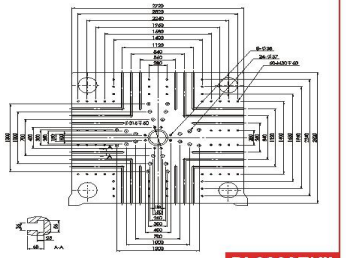

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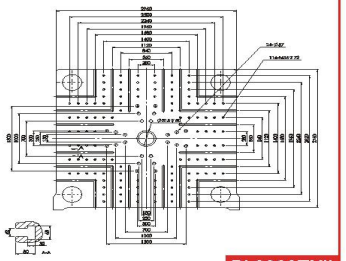

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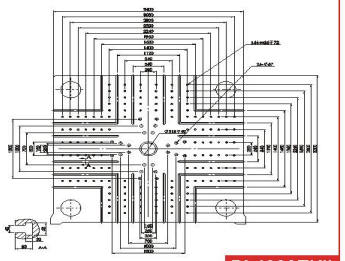

BL4000EKII

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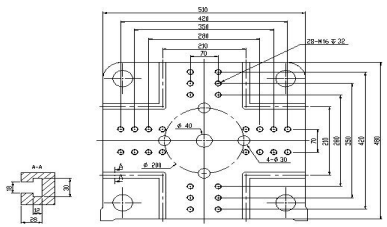
70-440EKII T Slot Platen Dimension Drawing(Optional)



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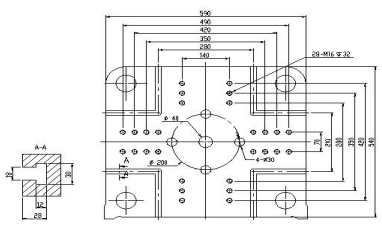

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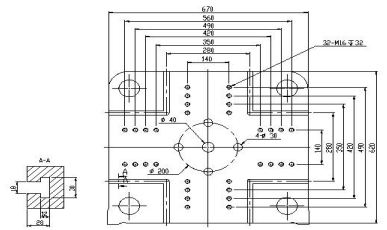

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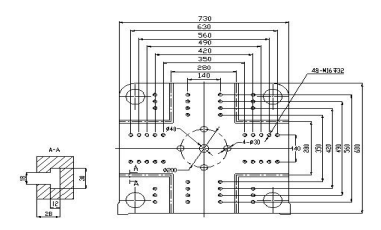

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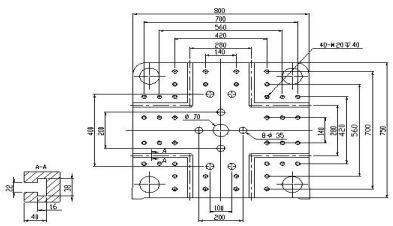
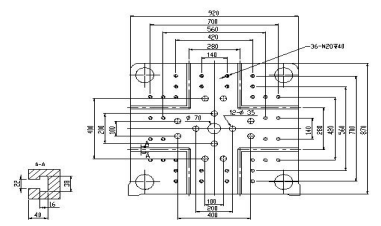


BL230EKII



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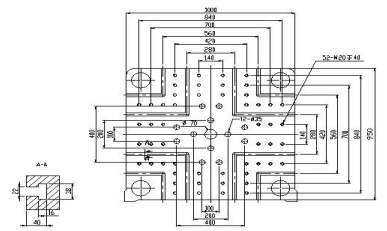

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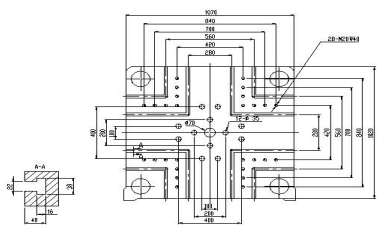

BL440EKII

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Standard Configuration Menu of BL EKII series

Clamping Unit

- >> Patent of the five point outside mould clamping mechanism with big opening stroke
- >> Wide platen design, can adapt to a larger size mould
- >> Low-pressure mould protect with high precision
- >> Hydraulic motor drive gear automatic mould high adjust mode
- >> Adjustable moving platen support structure, reduce the tie bar deformation
- >> Mechanical, electrical, hydraulic two/three safety protection devices
- >> Clamping part is equipped with mold pedal (BL1200EKII above)
- >> Automatic safety door control (BL750EKII above)
- >> Open and close mold, ejection movement with high precision transducer control
- >> A variety of optional ejection patterns, pressure, speed setting respectively
- >> Standard simultaneous eject /core pulling is equiped on 2200-4000EKII
- >> Centrel ejector on 70-850EKII, Euro standard eje ctor on 400EKII above
- >> Five period of opening and closing mode speed and pressure can be adjusted
- >> Automatic detector volumetric centralized lubrication system

Injection Unit

- >> High quality nitride steel efficient plasticizing screw barrel
- >> Time delay setting for cold start on screw, timing heating, automatic heat preservation function
- >> High quality high torque hydraulic motor for plasticizing
- >> Automatic detection of the nozzle choke and the raw materials overfeeding checkup function selection by the user self-control independently.
- >> Twin injection cyclinder design
- >> High rigid beam supporting structure
- >> The trimming device of the nozzle
- >> Injection stroke control with precise transducer
- >> Six stages of injection,five stages of holding pressure,five stages of charging,pressure/speed can be adjusted
- >> Screw rotation speed detection
- >> "Auto Purge" function for cleaning the barrel function
- >> Proportional back pressure
- >> 1000EKII above with central lubrication for inject unit
- >> 1200EKII above with feeding platform
- >> Attached to the extended nozzle(70-750EKII:50mm longer;850-4000EKII:100mm longer)

Hydraulic Unit

- >> Servo energy-saving system
- >> Oil temperature deviation automatic alarm
- >> Motor overload protection function
- >> 520EKII above with self sealing oil suction filters
- >> Core pulling device
- >> Quick insert mold cooling water(Φ 10)

Electrical Control Unit

- >> Process parameters of presetting function
- >> Have value reference and online operating instructions auxiliary function
- >> Simple robot interface
- >> Parameter data protection lock
- >> PID automatic temperature control, realizes the cylinder temperature self-correcting
- >> USB interface, easy backup panel application update and mould parameters save
- >> Have stop memory function, random can store 200 sets mould data
- >> 100 groups of alarm and 100 groups of modification record
- >> 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.
- >> Input and output point inspection and I/O online simulation function, and can confirm the machine status quickly
- >> Multiple sets of backup sockets
- >> 70-440EKII with the hopper and drop out magic eye
- >> Emergency stop front and back door, scram protection of mould area on 1200-4000EKII
- >> Alarm lamp with buzzer optional

Others

- >> Standard machine color of Bole
- >> Adjustable level pad
- >> Spare parts tool box
- >> Common tools
- >> Vulnerable parts

Optional Configuration Menu of BL EKII series

Clamping Unit

- >> Bigger mould height
- >> Bigger eject force
- >> Bigger eject stroke
- >> Wider machine cover& door
- >> With mould open mechanical limit
- >> With mould heat shield plate
- >> Non-standard mould screw holes(Japanese standard, SPI, ect.)
- >> T slot platen(70-650EKII)
- >> Mould hanging formwork
- >> Hydraulic/electric rotating demould device (twisted tooth device)

Injection Unit

- >> Increase/decrease of shot volume
- >> Bigger/smaller plasticizing motor
- >> Chrome plating/bimetallic screw components
- >> PVC,PET,PC,PA,bakelite,etc all kinds of special plasticizing unit
- >> Pneumatic/hydraulic/spring self-locking nozzle
- >> Accumulator inject(ACC)
- >> Gas-assisted/wit interface
- >> Sequential injection device
- >> Differential high-speed injection device
- >> Hot runner control built in

Hydraulic Unit

- >> Increase/decrease power system
- >> Increase the oil cooler
- >> The hydraulic/pneumatic core-pulling device
- >> Pneumatic ejection device
- >> Simultaneous ejection/core-pulling device
- >> Simultaneous plasticizing
- >> The oil temperature automatic control function
- >> The oil temperature preheating function
- >> Equipped with hydraulic/pneumatic core-pulling device
- >> Install bypass filter

Optional Auxiliary

- >> Robot
- >> Hopper dryer
- >> Dehumidifier
- >> Crusher
- >> Mould temperature controller
- >> Magnetic shelf
- >> Auto-loader
- >> Mould cooling flow meter glass tube

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

WE KEEP THE RIGHT OF PARAMETERS ADJUSTING AND IMPROVING WITHOUT FURTHER NOTICE.