

CIML Series



The Passionate Pursuit of Perfection

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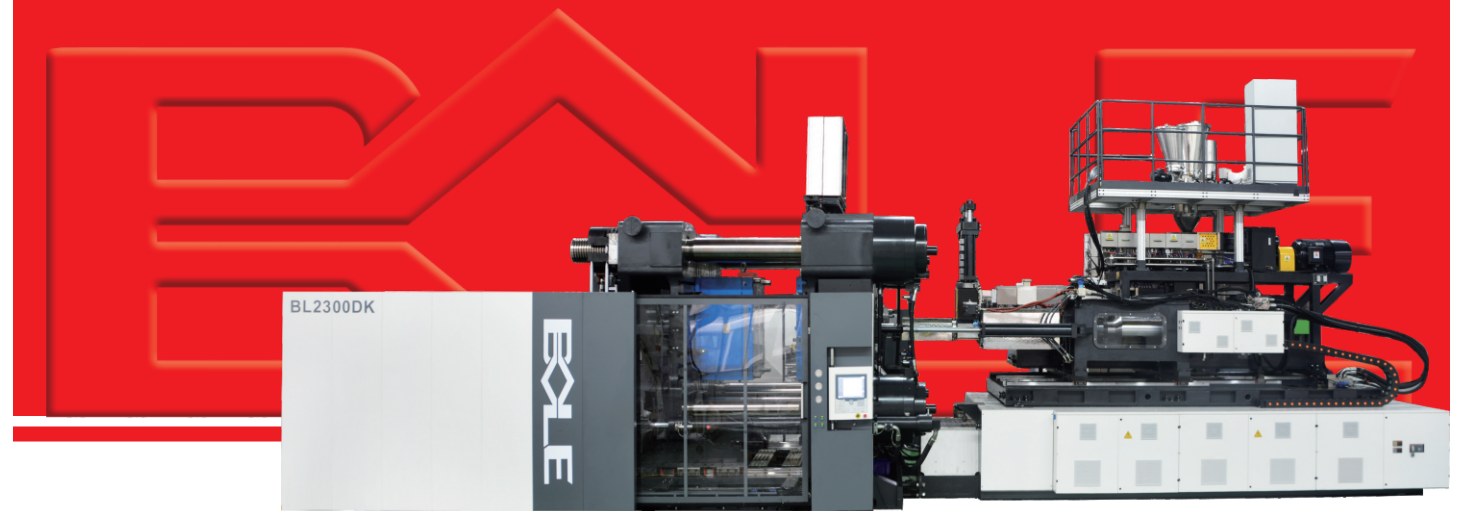
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CIML Series Carbon-Fiber Products Intelligent Moulding Line

Specialized in light weight production for Auto industry



Injection Moulding Machine

Specialized In Light Weight Production For Auto Industry

Long Fiber Reinforced Thermoplastic Direct Injection Moulding
(On-line Compounding Injection Moulding)

As the edged tool tailored by “lightweight of automobile”, CIML carbon fiber product intelligent moulding line combines equipment, technology and material and units the "compounding" and "injection moulding" into one, provided fiber reinforced composite moulding technology to help all the customers enhance the core competitiveness.

- Less Energy
- Less Material
- Less Cost
- Higher Efficiency
- Advanced Performance

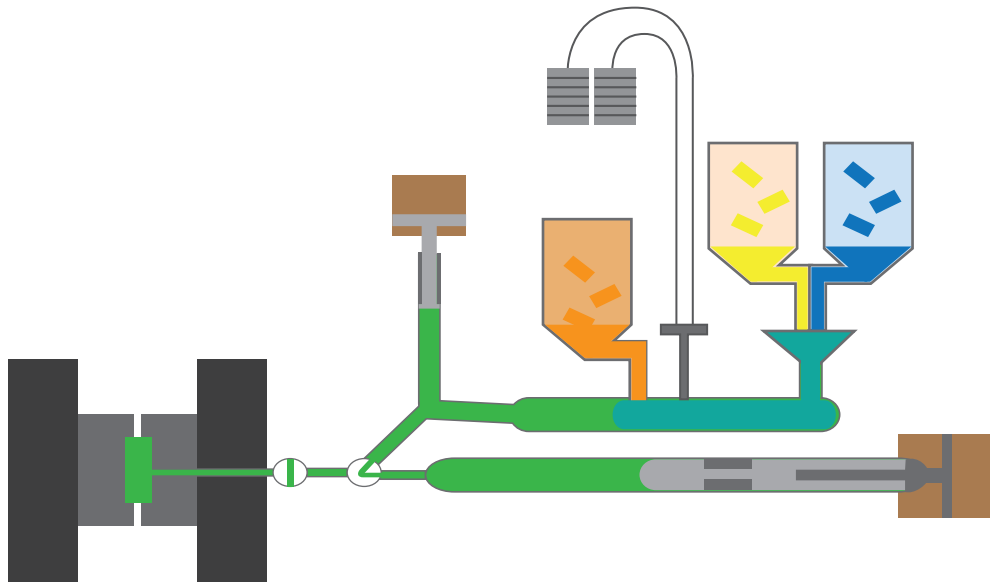
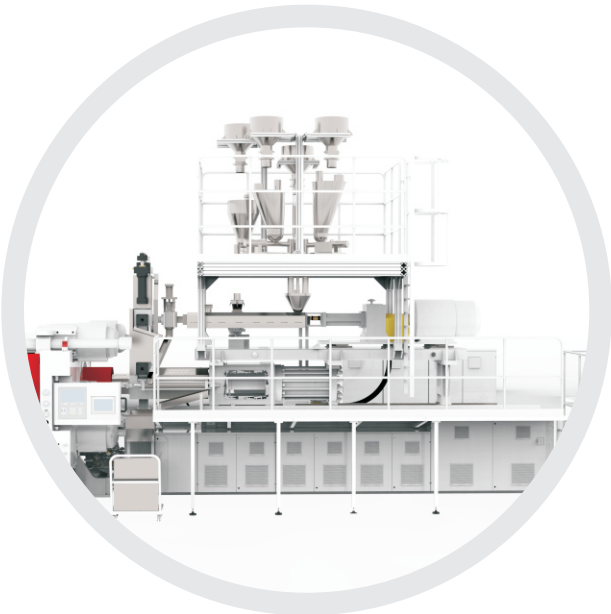


• Clamping Unit

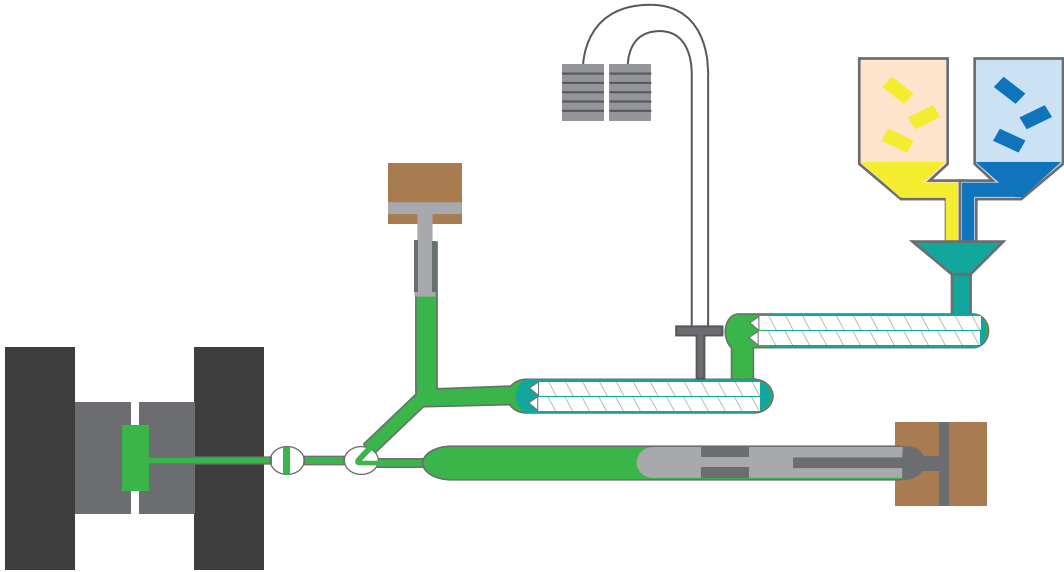
• Compounding Unit

• Transport of
Continuous Fiber

LFT-D-IMst

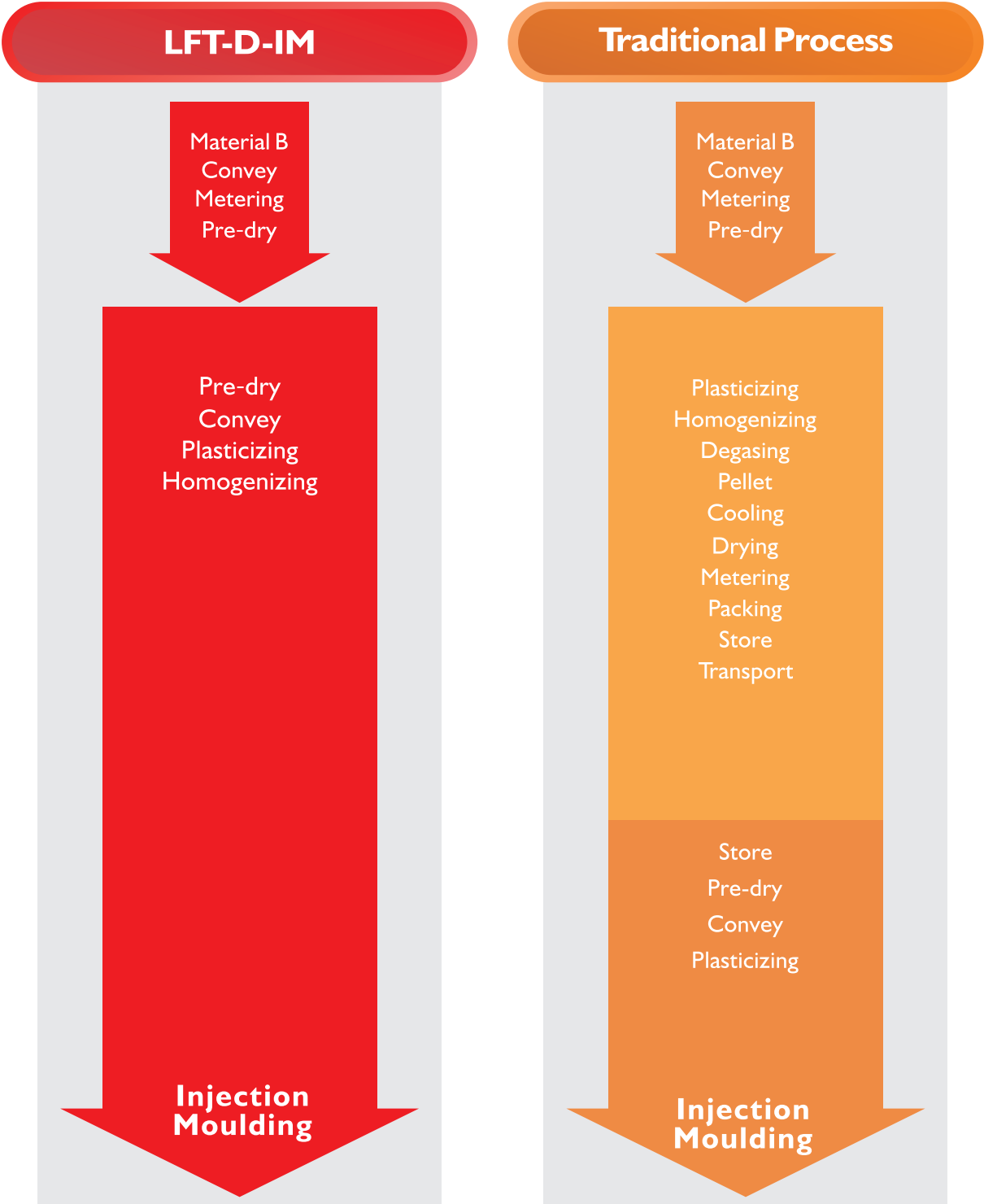


LFT-D-IM^{plus}



LFT-D-IM Technology Advantages

User-defined material formulation process
Independent intellectual property



10

Save 10 Procedures
Reduce energy consumption, improve efficiency
One step with multiple programs
One step with multiple materials

3

3 Time Longer
Reduce one heating process, avoid damage on Polymer chain
increase fiber length (VS LFT-G)

LFT-D-IM
5-8mm

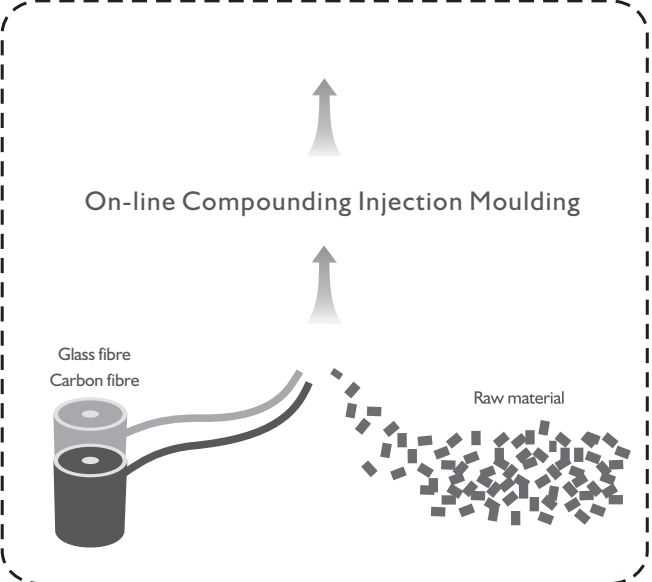
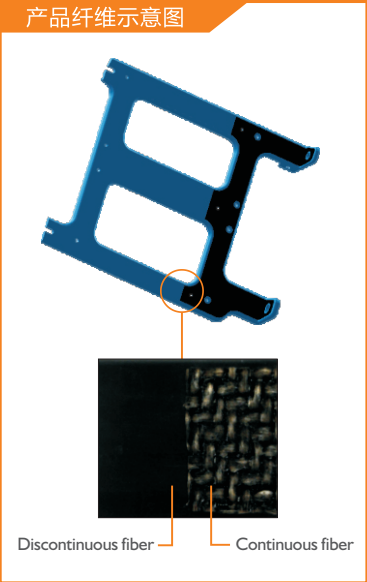
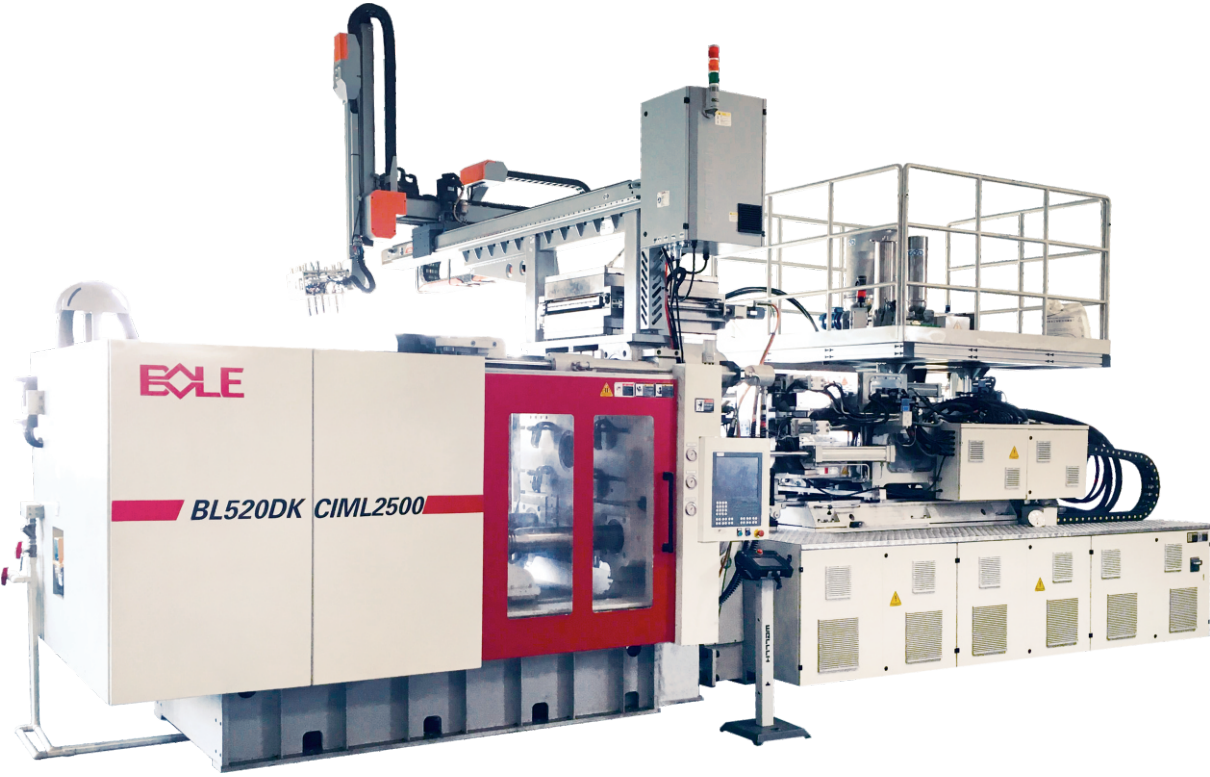
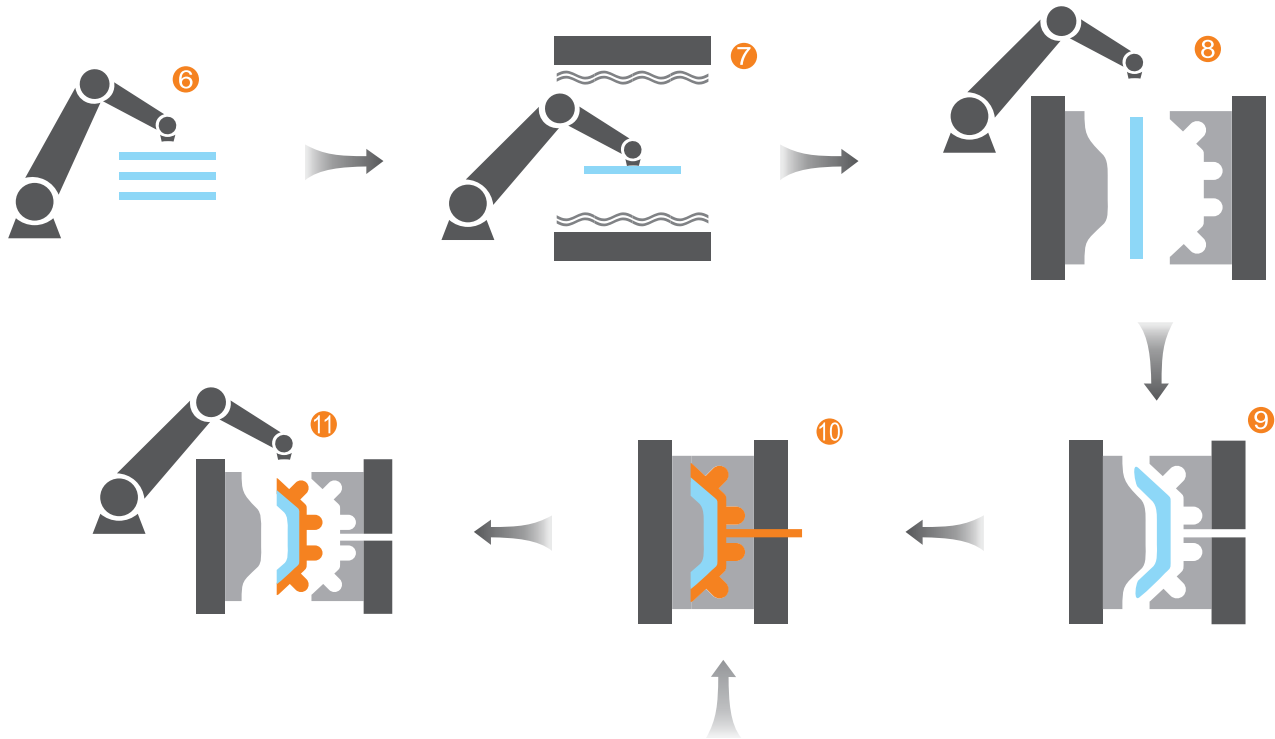
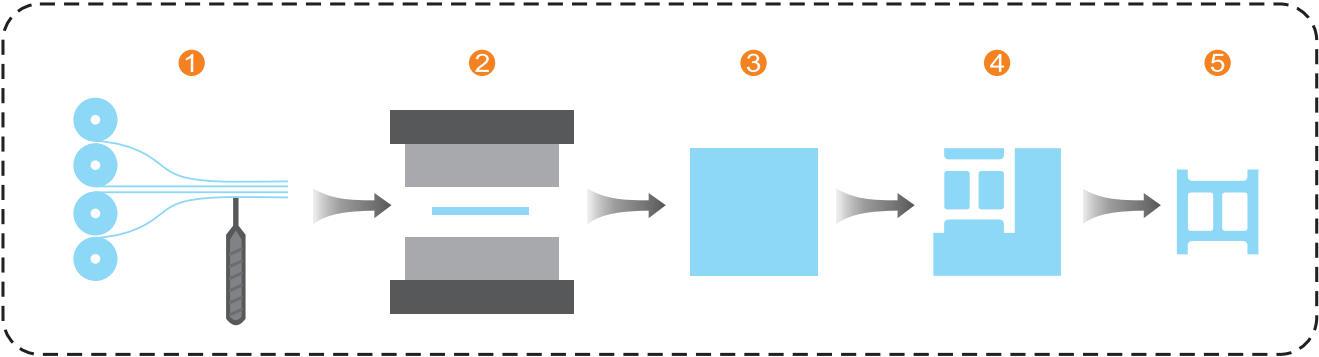
Fiber Length

Traditional Process
1-3mm

1/3

Cost Saving 1/3
Reduce the amount of material
Reduce the cost of material

On-line Injection Hotpress Moulding



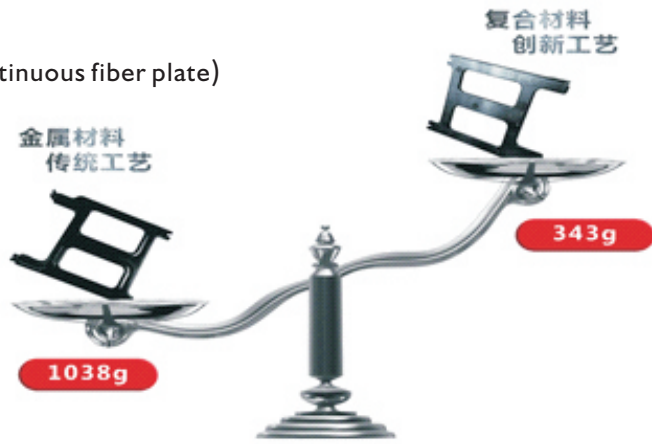
- 1. Fiber cloth infiltrate
- 2. Mould pressing
- 3. Fiber sheet
- 4. Fiber sheet cutting
- 5. Semi-finished product
- 6. Semi-finished product pick-up
- 7. Semi-finished product pre-heat
- 8. Transfer to injection mould
- 9. Close the mould (semi-finished product)
- 10. Injection
- 11. Finished product take-out

OIHM 案例分析

Weight is more light:
the total weight is reduced by 65% using injection moulding
and hot-pressing composite process.

Various Application

DC battery hack
机型: BL520DK/CIML2500
材料: PA6+40%GF/PA6+47%GF连续维板材(continuous fiber plate)
成型周期: 60s
重量: 343g



Mechanical strength comparison

Moulding process	Impact、welding、painting	CIML injection moulding and hot-pressing composite process	
Materials	S20C	PA6+40%GF	PA6+47%GF Continuous fiber plate
Material density g/cm3	7.85	1.45	1.8
Tensile Mpa	410	280	Vertical:480 Horizontal:465

DC power support

Injection heat pressing techniques

Traditional technics

Seat frame

Injection heat pressing technics

Traditional technics

Gear-box case

Injection heat pressing technics

Traditional technics

Air bag control box

Injection heat pressing technics

Traditional technics

CIML Specialized in light weight production for Auto industry



Focus to be:
One stop Solution provider of fiber reinforced composites molding process.

Photos only for reference.

Technical Data

Injection Unit		CIML2500			CIML4310			CIML4310			CIML7200			CIML7200			CIMLI4000			CIMLI4000			CIMLI4000		
Working capacity		2500			4310			4310			7200			7200			I4000			I4000			I4000		
Injection plug diameter	mm	65	70	80	75	85	90	75	85	90	90	100	110	90	100	110	120	130	140	120	130	140	120	130	140
Injection pressure	MPa	222	191	146	235	183	163	235	183	163	227	184	152	227	184	152	200	170	147	200	170	147	200	170	147
Stroke volume	cm³	1128	1308	1709	1856	2383	2672	1856	2383	2672	3181	3927	4752	3181	3927	4752	7351	8628	10006	7351	8628	10006	7351	8628	10006
Injection stroke	mm	340	340	340	420	420	420	420	420	420	500	500	500	500	500	500	650	650	650	650	650	650	650	650	650
Shot weight,PP	g	823	954	1247	1354	1739	1950	1354	1739	1950	2322	2867	3469	2322	2867	3469	5366	6298	7304	5366	6298	7304	5366	6298	7304
Shot weight,PP LGF30	g	1069	1237	1621	1763	2263	2538	1763	2263	2538	3022	3731	4514	3022	3731	4514	6984	8196	9506	6984	8196	9506	6984	8196	9506
Injection rate	cm³/s	377	436	572	452	580	650	452	580	650	638	787	953	638	787	953	1158	1360	1577	1158	1360	1577	1158	1360	1577
Injection speed	mm/s	114	114	114	111	111	111	111	111	111	100	100	100	100	100	100	102	102	102	102	102	102	102	102	102
Melt buffer																									
Piston diameter of buffer	mm	70	70	70	85	85	85	85	85	85	100	100	100	100	100	100	130	130	130	130	130	130	130	130	130
Buffer stroke	mm	240	240	240	320	320	320	320	320	320	350	350	350	350	350	350	450	450	450	450	450	450	450	450	450
Buffer volume max.	cm³	923	923	923	1816	1816	1816	1816	1816	1816	2749	2749	2749	2749	2749	2749	5973	5973	5973	5973	5973	5973	5973	5973	5973
Share of total shot weight max.	%	82	70	54	98	76	68	98	76	68	86	70	58	86	70	58	81	69	60	81	69	60	81	69	60
Compounding Extruder																									
Compounder Size		BL-TSS35			BL-TSS52			BL-TSS52			BL-TSS52			BL-TSS52			BL-TSS62			BL-TSS62			BL-TSS62		
Throughput(PP LGF30)	kg/h	35			200			200			280			280			400			400			400		
Screw diameter	mm	36			52			52			52			52			62			62			62		
Drive capacity	kW	15			110			110			110			110			200			200			200		
Max.screw RPM	1/min	266			600			600			600			600			600			600			600		
Screw length	L/D	40			40			40			40			40			40			40			40		
Heating capacity	kW	14			33			33			33			33			40			40			40		
Clamping Unit		BL520DK			BL620DK			BL750DK			BL950DK			BLI100DK			BLI400DK			BLI700DK			BL2000DK		
Clamping force	kN	5200			6200			7500			9500			11000			14000			17000			20000		
Size of mould platen(h x v)	mm	1260X1210			1380X1280			1500X1360			1565X1420			1855X1715			2130X2030			2260X2100			2480X2320		
Clearance between tie bars(h x v)	mm	860X810			960X860			1060X920			1160X1020			1260X1120			1420X1320			1620X1460			1720X1560		
Mould opening stroke	mm	1100/600			1300/750			1400/800			1600/950			1870/1150			2200/1500			2570/1700			2580/1700		
Mould height min. - max.	mm	350–850			350–900			400–1000			450–1100			480–1200			650–1350			680–1550			720–1600		
Max. daylight	mm	1450			1650			1800			2050			2350			2850			3250			3300		
Ejector stroke	mm	250			250			280			280			320			360			400			450		
Ejector force forward/backward	kN	124/75			124/75			232/155			232/155			232/155			309/210			309/210			465/310		
Electric and Hydraulic Device																									
Pump motor	kW	44+9			47+25+9			47+25+9			47+30+25+17			47+30+25+17			47X3+21			47X3+21			47X3+21		
System pressure	MPa	17.5			17.5			17.5			17.5			17.5			17.5			17.5			17.5		
Oil tank capacity	liter	850			1400			1400			1700			1700			2700			2700			2700		
Heating capacity without extruder	kW	40			70			70			80			80			97			97			97		
Dimensions and Weights																									
Maximum allowable mould weight	ton	6.5			8			9.5			12			15			15			35			42		
Net weight	ton	23			26			30			36			77			86			108			108		
Installation dimension(LxWxH)	m	8.5X2.6X4			9.0X3.6X4			10.0X3.6X4			11.6X3.8X4.5			12.0X4.0X6.0			14.3X4.5X6.0			14.7X4.5X6.0			15.3X4.5X6.0		

.11. Due to the continuous product improvement, we reserve the right to adjust the individual parameters, without notice.

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.12.

Technical Data

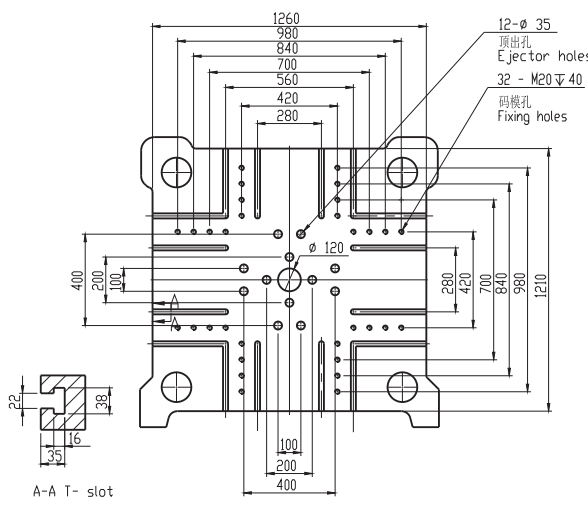
Injection Unit		CIML23000			CIML23000			CIML36300			CIML36300			CIML74000			CIML74000			CIMLI00000			CIMLI30000*				
Working capacity		23000			23000			36300			36300			74000			74000			I00000			I30000*				
Injection plug diameter	mm	140	150	170	140	150	170	160	170	185	160	150	170	200	220	240	200	220	240	220	240	260	220	240	260		
Injection pressure	MPa	214	187	145	214	187	145	210	186	157	210	187	145	211	174	146	211	174	146	206	173	148	206	173	148		
Stroke volume	cm³	11545	13254	17024	11545	13254	17024	17291	19520	23117	17291	13254	17024	35186	42575	50668	35186	42575	50668	49417	58811	69021	64623	76906	90258		
Injection stroke	mm	750	750	750	750	750	750	860	860	860	860	750	750	1120	1120	1120	1120	1120	1120	1300	1300	1300	1700	1700	1700		
Shot weight,PP	g	8428	9675	12427	8428	9675	12427	12620	14249	16875	12620	9675	12427	25685	31079	36987	25685	31079	36987	36074	42932	50385	47174	56142	65888		
Shot weight,PP LGF30	g	10968	12591	16172	10968	12591	16172	16426	18544	21961	16426	12591	16172	33426	40445	48134	33426	40445	48134	46946	55870	65569	61391	73061	85745		
Injection rate	cm³/s	1357	1558	2001	1357	1558	2001	1525	1722	2039	1525	1558	2001	1816	2197	2615	1816	2197	2615	1983	2360	2770	2861	3405	3996		
Injection speed	mm/s	92	92	92	92	92	92	74	74	74	74	74	74	58	58	58	58	58	58	57	57	57	57	57	57		
Melt buffer																											
Piston diameter of buffer	mm	150	150	150	150	150	150	170	170	170	170	150	150	220	220	220	220	220	220	240	240	240	240	240	240		
Buffer stroke	mm	550	550	550	550	550	550	610	610	610	610	550	550	780	780	780	780	780	780	820	820	820	1000	1000	1000		
Buffer volume max.	cm³	9719	9719	9719	9719	9719	9719	13845	13845	13845	13845	9719	9719	29650	29650	29650	29650	29650	29650	37096	37096	37096	45239	45239	45239		
Share of total shot weight max.	%	84	73	57	84	73	57	80	71	60	80	73	57	84	69	58	84	69	58	74	63	53	70	59	50		
Compounding Extruder																											
Compounder Size		BL-TSS62			BL-TSS62			BL-TSS72			BL-TSS72			BL-TSS72			BL-TSS72			BL-TSS92			BL-TSS92				
Throughput(PP LGF30)	kg/h	400			400			500			500			500			500			1500			1500				
Screw diameter	mm	62			62			73			73			73			73			93			93				
Drive capacity	kW	200			200			315			315			315			315			630			630				
Max.screw RPM	1/min	600			600			600			600			600			600			600			600				
Screw length	L/D	40			40			40			40			40			40			40			40				
Heating capacity	kW	40			40			55			55			55			55			105			105				
Clamping Unit		BL2300DK			BL2700DK			BL3000DK			BL3500DK			BL4000DK			BL5000DK			BL6800DK							
Clamping force	kN	23000			27000			30000			35000			40000			50000			68000							
Size of mould platen(h x v)	mm	2560X2360			2700X2500			2840X2640			3120X2820			3340X2940			3820X3420			4350X3750							
Clearance between tie bars(h x v)	mm	1820X1620			1920X1720			2020X1820			2220X1920			2420X2020			2800X2400			3200X2600							
Mould opening stroke	mm	2720/1800			2920/1900			3020/2000			3180/2160			3480/2360			3680/2460			4200/2900							
Mould height min. - max.	mm	780–1700			780–1800			880–1900			980–2000			980–2100			1080–2300			1200–2500							
Max. daylight	mm	3500			3700			3900			4160			4460			4760			5400							
Ejector stroke	mm	450			500			500			550			550			550			1000							
Ejector force forward/backward	kN	465/310			465/310			465/310			465/310			619/420			619/420			891/616							
Electric and Hydraulic Device																											
Pump motor	kW	47X4+37			47X4+37			47X4+37			47X4+37			47X5+37			47X5+37			47X5+37X2			47X5+37X2				
System pressure	MPa	17.5			17.5			17.5			17.5			17.5			17.5			17.5			17.5				
Oil tank capacity	liter	3000			3000			3800			3800			4600			4600			5000			5000				
Heating capacity without extruder	kW	130			130			168			168			183			183			215			243				
Dimensions and Weights																											
Maximum allowable mould weight	ton	50			68						80			100													
Net weight	ton	142			162			200			250			270			310			420			425				
Installation dimension(LxWxH)	m	16.2X4.5X6.0			16.8X4.5X6.2			17.8X5.5X6.4			21X5.5X6.4			22X5.5X6.4			25X5.5X6.4			27X6.3X6.4			27X6.3X6.4				

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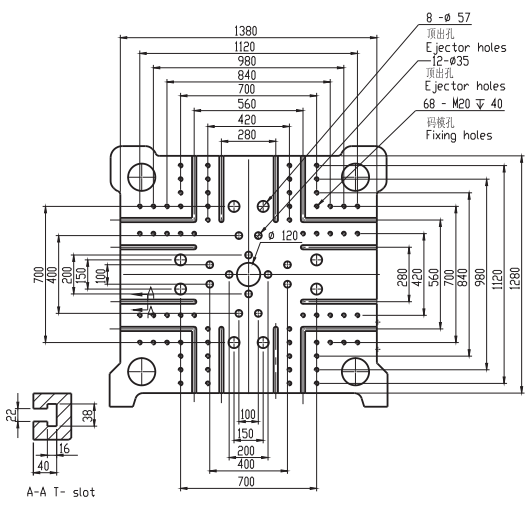
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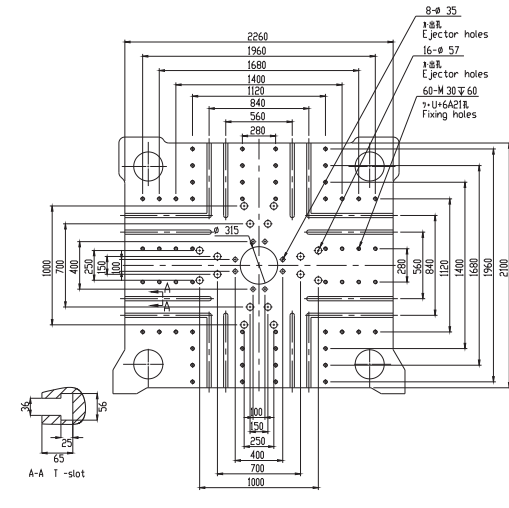
Platen Size



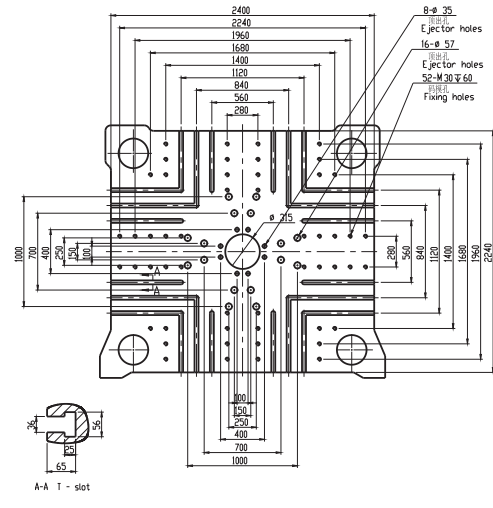
BL520DK



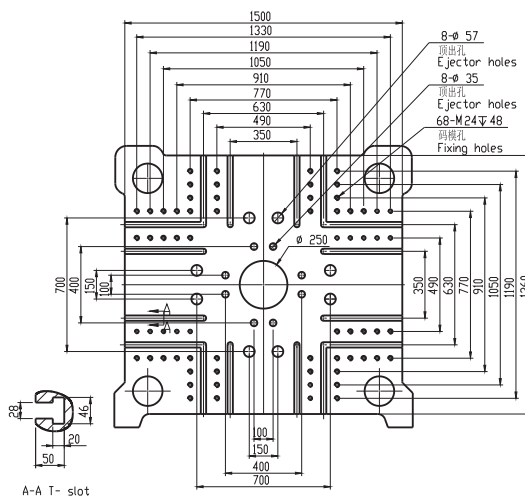
BL620DK



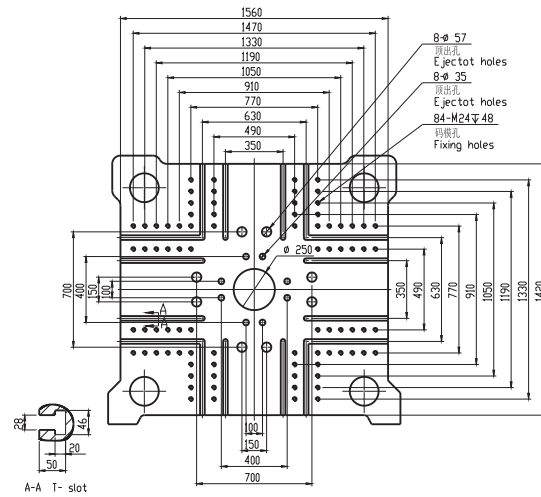
BL1700DK



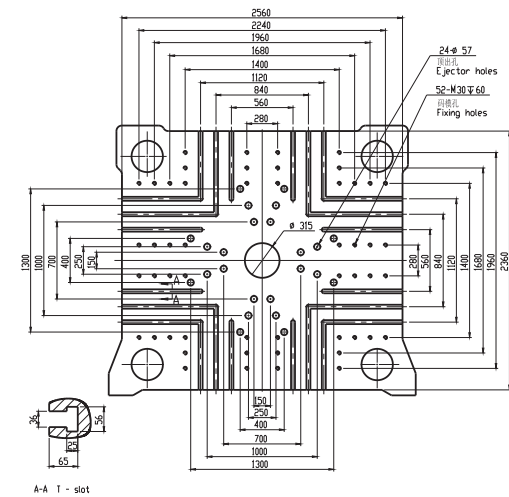
BL2000DK



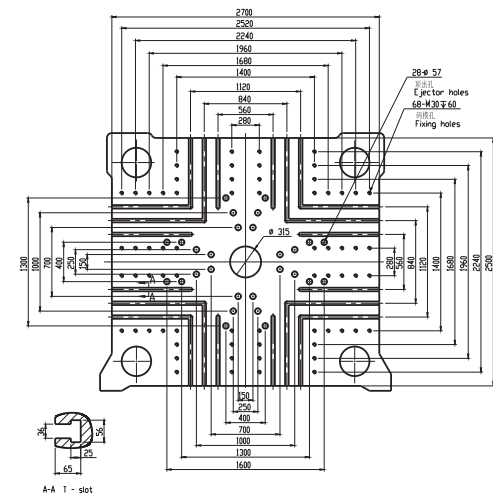
BL750DK



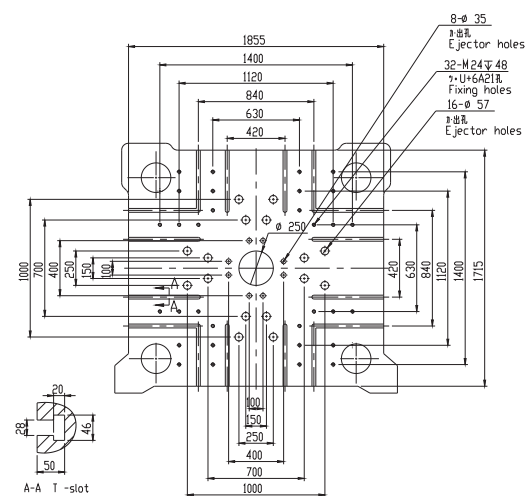
BL950DK



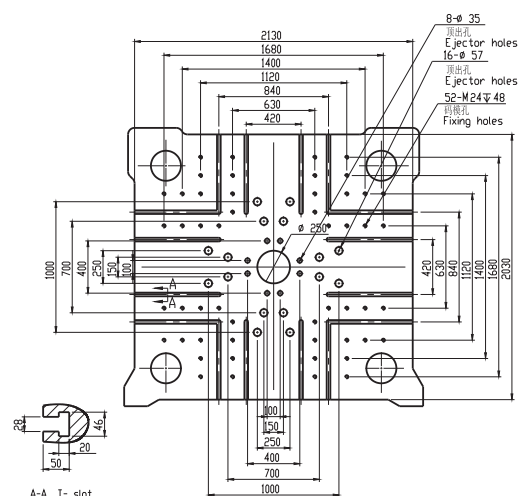
BL2300DK



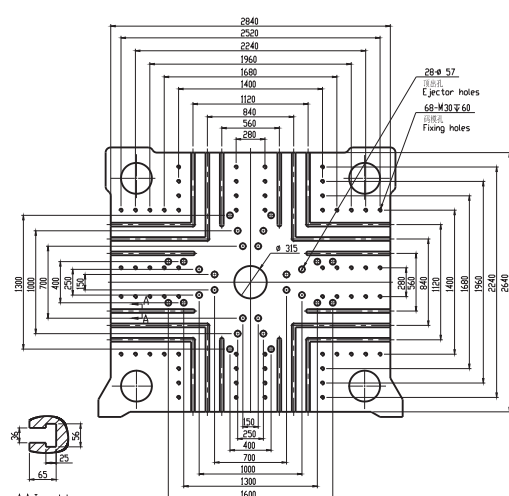
BL2700DK



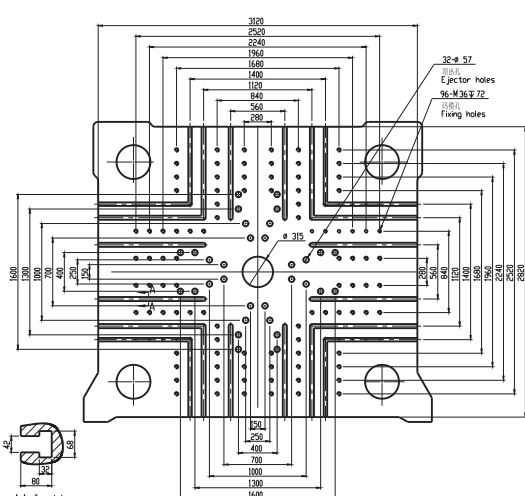
BL1100DK



BL1400DK

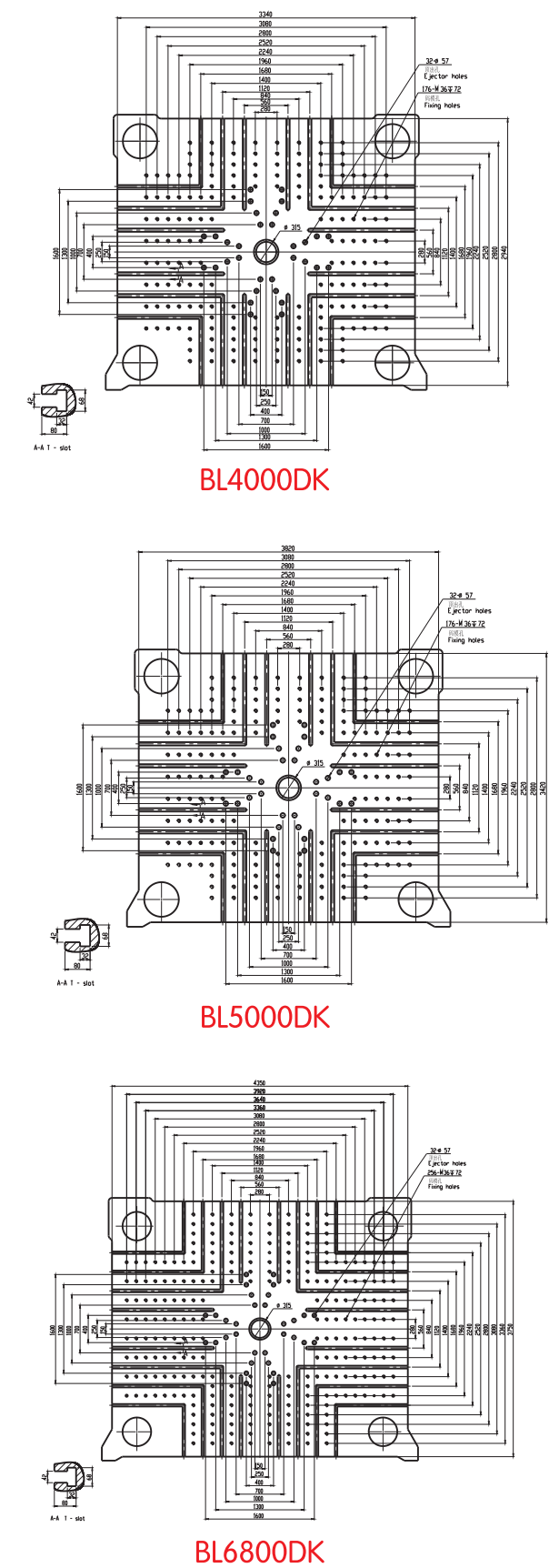


BL3000DK



BL3500DK

Platen Size



Combinations between Clamp Units and CIML Compounding Injection Units

Compounding Injection Unit		2500			4310			7200			14000			23000			36300			74000			100000			130000		
Compounder Size		● BL-TSS35			● BL-TSS52			● BL-TSS52 ◎ BL-TSS62			● BL-TSS62			● BL-TSS62			● BL-TSS72 ◎ BL-TSS62			● BL-TSS72 ◎ BL-TSS62			● BL-TSS92 ◎ BL-TSS72			● BL-TSS92		
Injection plug diameter		65	70	80	75	85	90	90	100	110	120	130	140	140	150	170	160	170	185	200	220	240	220	240	260	220	240	260
Clamp Unit	Clearance between tie bars(HxV) mm																											
BL520DK	860X810	●			◎																							
BL620DK	960X860				●																							
BL750DK	1060X920				●			◎																				
BL950DK	1160X1020				◎			●			◎																	
BL1100DK	1260X1120							●			◎																	
BL1400DK	1420X1320							◎			●			◎														
BL1700DK	1620X1460							◎			●			◎			◎											
BL2000DK	1720X1560							◎			●			◎			◎											
BL2300DK	1820X1620										◎			●			◎											
BL2700DK	1920X1720										◎			●			◎											
BL3000DK	2020X1820													◎			●											
BL3500DK	2220X1920													◎			●			◎			◎			◎		
BL4000DK	2420X2020													◎			◎			●			◎			◎		
BL5000DK	2800X2400																◎			●			◎			◎		
BL6800DK	3200X2600																◎			◎			●			◎		

● Standard ◎ Optional