



L.K. MACHINERY INTERNATIONAL LIMITED



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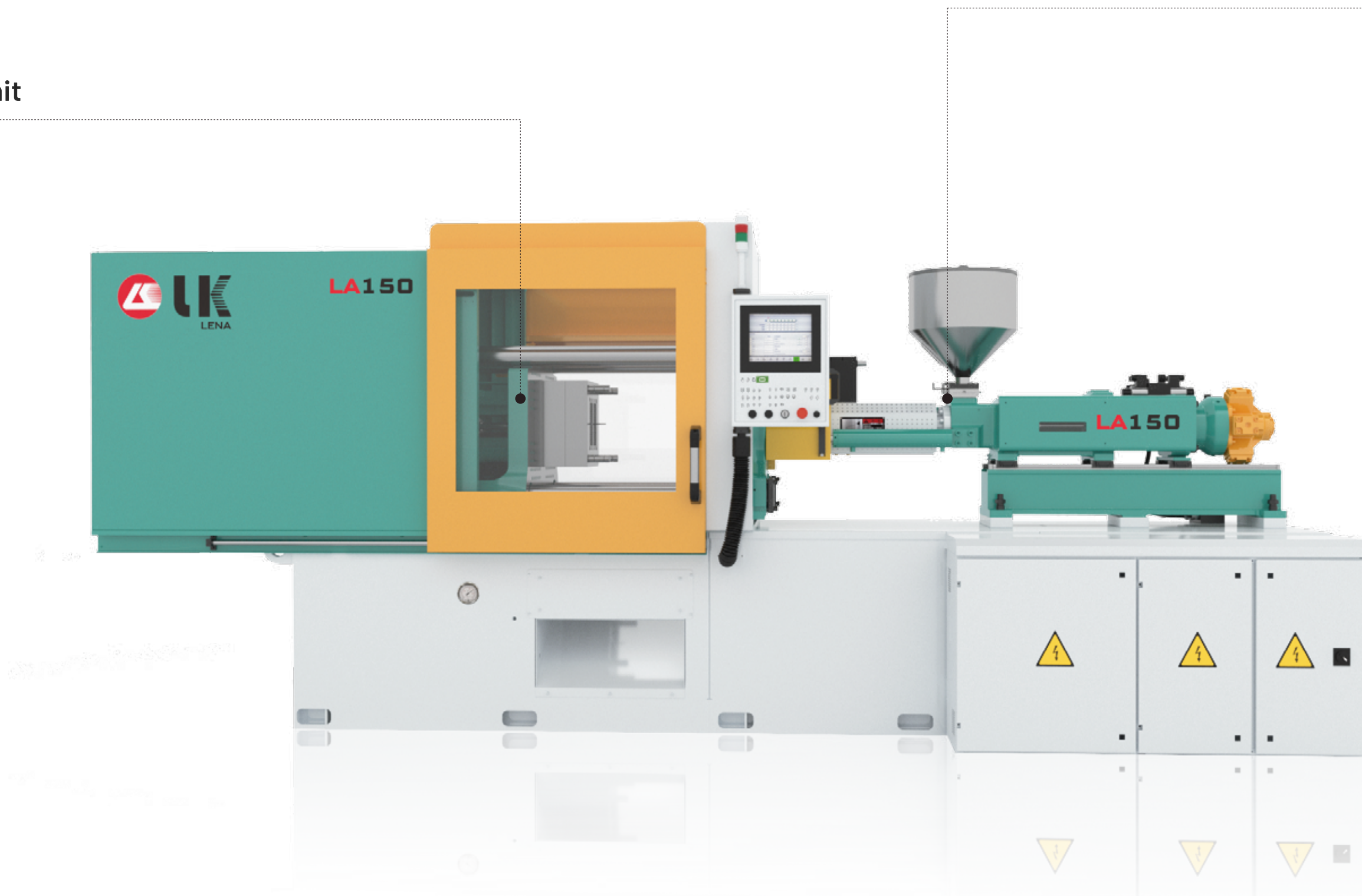
Lena series
Direct Clamp Energy-Saving
Servo Injection Molding Machine

Direct Clamp Energy-saving Servo Injection Molding Machine

Lena series

Clamping unit

Injection unit



Direct Clamp Energy-saving Servo Injection Molding Machine

Lena series

Robust clamping unit

- ▶ Top-notch direct hydraulic clamping
- ▶ High pressure cylinder internal oil circulating circuit
- ▶ Fast response and energy saving
- ▶ Highly integrated hydraulic clamping structure and sealing technology

Non-contact tie bars and swift platen movement

- ▶ Tie bars have zero wear with unparalleled service life
- ▶ Low friction, fast response platen support by linear guideway
- ▶ Generous distance between tie bars and daylight to fit bigger molds

Single cylinder injection system

- ▶ High injection precision
- ▶ Low inertia with fast response
- ▶ Optimal injection speed for thin-wall applications between 150 -200 mm/s
- ▶ Electric metering for shorter cycle time and lower energy consumption (optional)

Ingenious control

- ▶ Proportional clamping control
- ▶ Back pressure proportional control
- ▶ KEBA 12" PLC with LCD touch screen panel
- ▶ Linear transducer for injection position, carriage position, mold platen position and ejector position

Hydraulic System

- ▶ European high efficiency servo pump technology



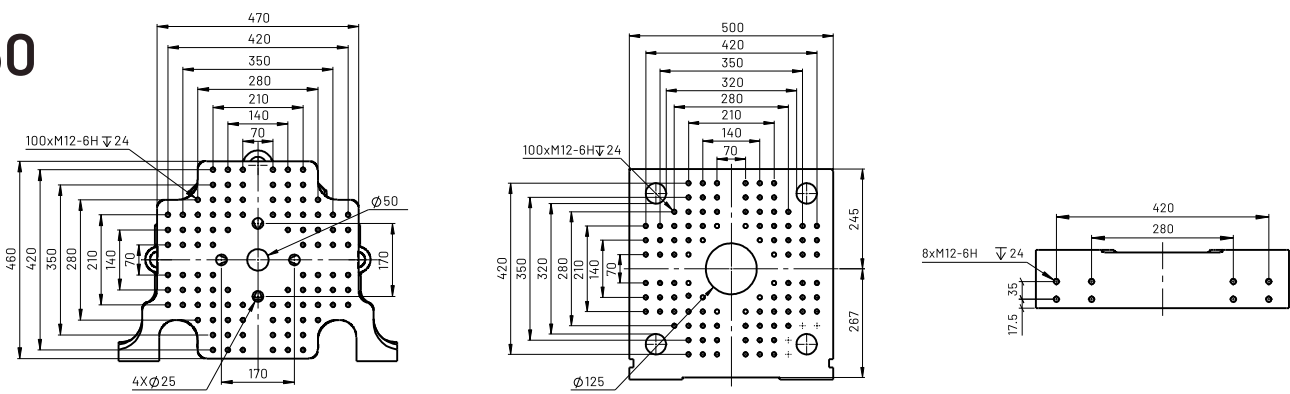
Specifications

Item	Unit	LA50			LA100			LA150		
Injection unit		140			270			370		
Injection weight (PS)	g	54	77	105	96	131	171	140	183	231
	OZ	1.9	2.7	3.7	3.4	4.6	6	4.9	6.5	8.2
Screw diameter	mm	25	30	35	30	35	40	35	40	45
L/D ratio		25	21	18	24	21	18	23	20	18
Injection volume	cm ³	59	85	115	106	144	188	154	201	254
Injection stroke	mm	120	120	120	150	150	150	160	160	160
Screw rpm	rpm	320	320	320	320	320	320	280	280	280
Plasticizing capacity (PS)	kg/hr	17	29	45	29	45	68	40	59	84
Injection pressure	MPa	243	169	124	257	189	145	247	189	149
Injection rate	cm ³ /s	98	141	192	133	182	237	139	182	230
Carriage stroke	mm	210			240			300		
Carriage contact force	kN	53			53			59		
Hopper volumn	L	50			50			50		
Clamping unit										
Clamping force	kN	500			1000			1500		
Mould thickness (Min.)	mm	200			250			250		
Mould thickness (Max.)	mm	385			500			500		
Maximum daylight	mm	550			750			750		
Opening stroke	mm	350			500			500		
Space between tie bars (H×V)	mm	320 × 320			420 × 420			470 × 470		
Ejector stroke	mm	125			175			175		
Ejector force	kN	33			41			41		
Number of ejector pins		5			5			5		
Others										
Pump motor power	kW	17.6			23			23		
System pressure	MPa	21			21			21		
Oil tank capacity	L	250			400			400		
Heating capacity	kW	5.7			7.9			10.5		
Temp. control zones		4+N			4+N			4+N		
Machine dimensions (L×W×H)	m	3.8 × 1.85 × 1.33			4.54 × 1.95 × 1.45			4.91 × 2 × 1.46		
Machine weight	ton	3			4.5			5		
Minimum mould size	mm	210 × 210			280 × 280			310 × 310		
Mould weight (Fixed platen)	kg	92			206			258		
Mould weight (Moving platen)	kg	185			413			517		

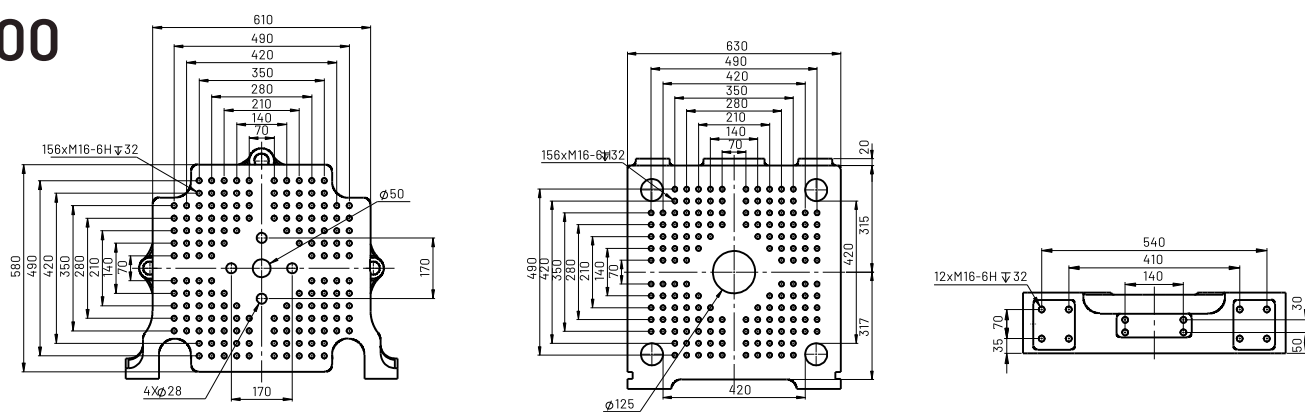
LA200			LA250			LA300			LA400		
790			1390			1390			2030		
289	357	432	508	604	823	508	604	823	720	980	1280
10	13	15	18	21	29	18	21	29	25	35	45
45	50	55	55	60	70	55	60	70	60	70	80
22	20	18	23	21	18	23	21	18	23	20	18
318	393	475	558	664	904	558	664	904	791	1077	1407
200	200	200	235	235	235	235	235	235	280	180	280
194	194	194	182	182	182	182	182	182	160	160	160
58	80	107	100	130	206	100	130	206	114	181	271
249	202	167	251	211	155	251	211	155	257	189	145
187	231	279	281	334	455	281	334	455	372	506	661
400			400			550			675		
87			87			87			119		
100			100			100			100		
2000			2500			3000			4000		
300			300			400			400		
625			725			825			975		
950			1050			1250			1300		
650			750			850			900		
570 × 570			630 × 630			720 × 720			820 × 820		
225			225			250			250		
70			81			81			106		
5			13			13			13		
28.7			55.4			55.4			66.8		
21			21			21			21		
600			900			800			1000		
13.6			23.2			23.2			29.6		
5+N			5+N			5+N			5+N		
5.9 × 2 × 1.63			6.9 × 2.1 × 1.72			7.1 × 2.2 × 1.83			7.8 × 2.2 × 1.95		
7.8			10.8			13			16.1		
380 × 380			420 × 420			480 × 480			540 × 540		
475			673			1001			1534		
950			1347			2002			3068		

Platen Dimensions

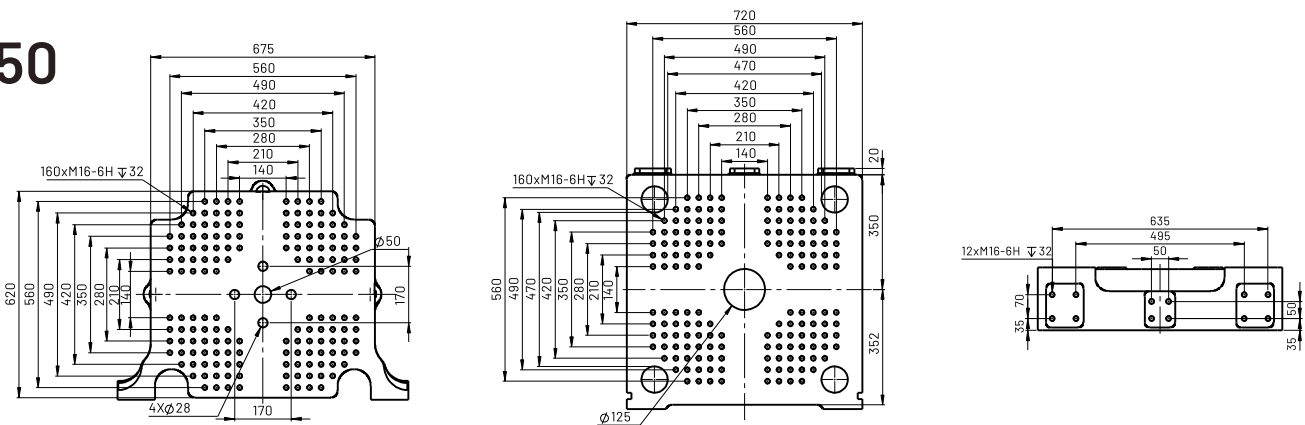
LA50



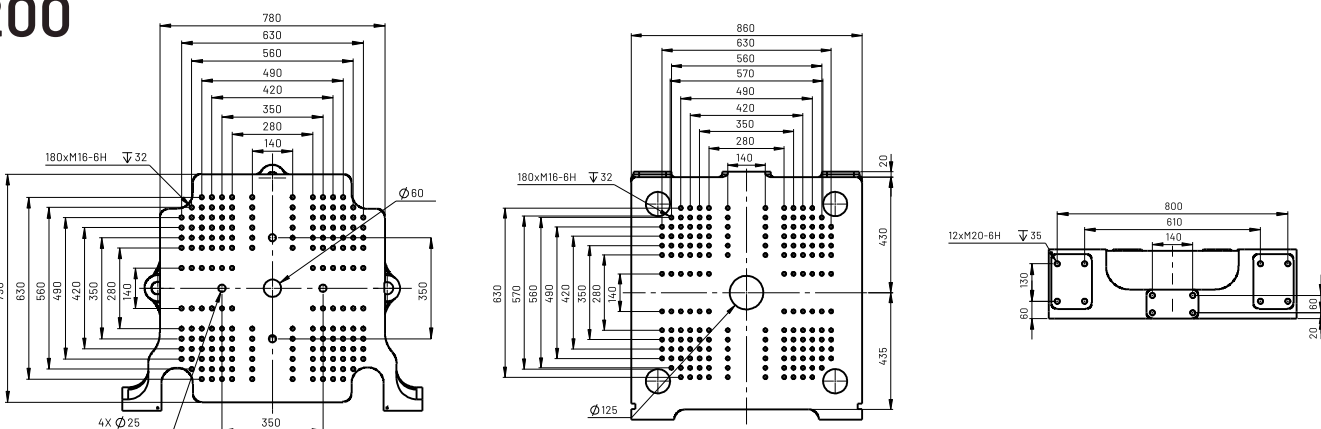
LA100



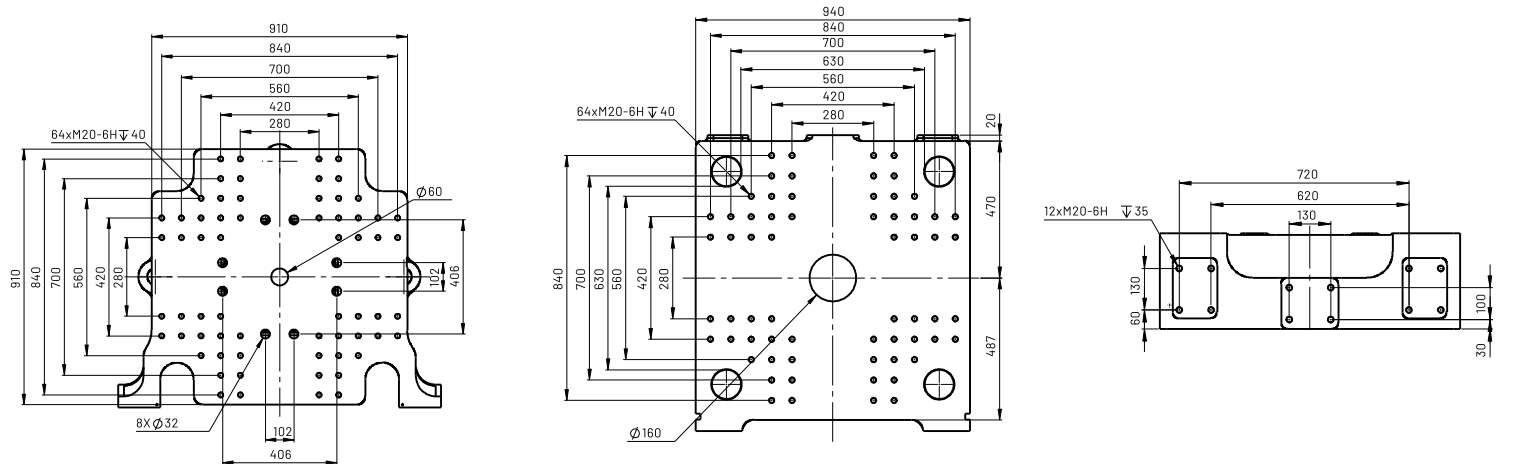
LA150



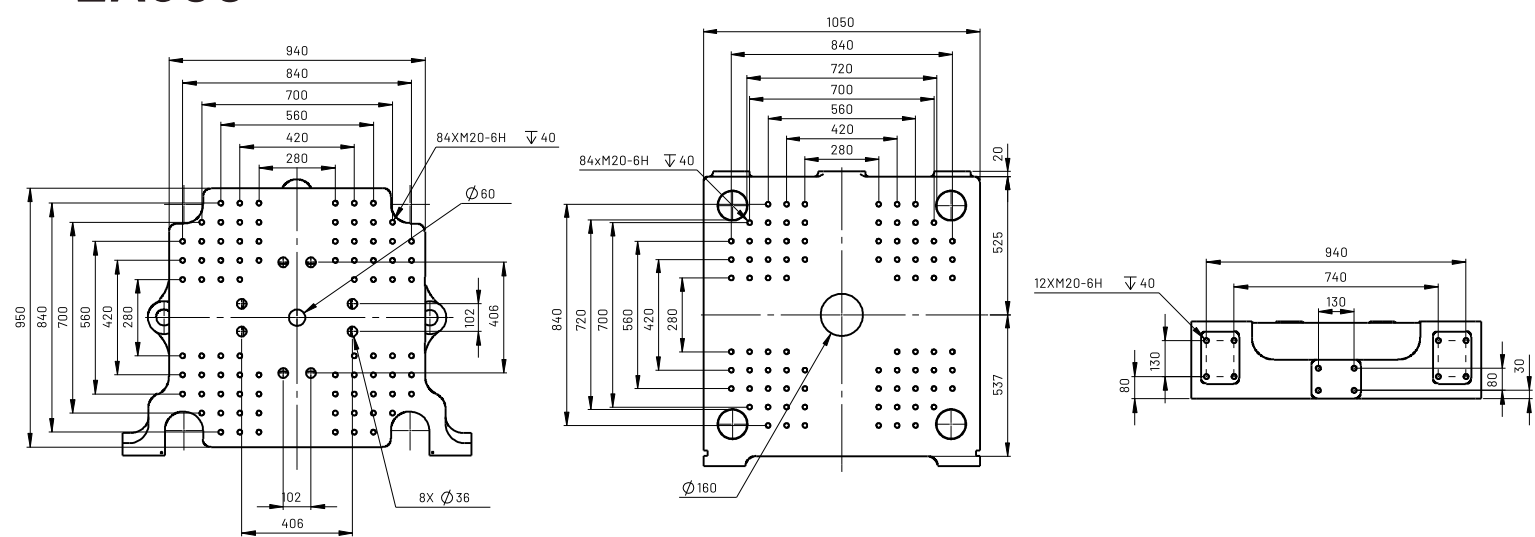
LA200



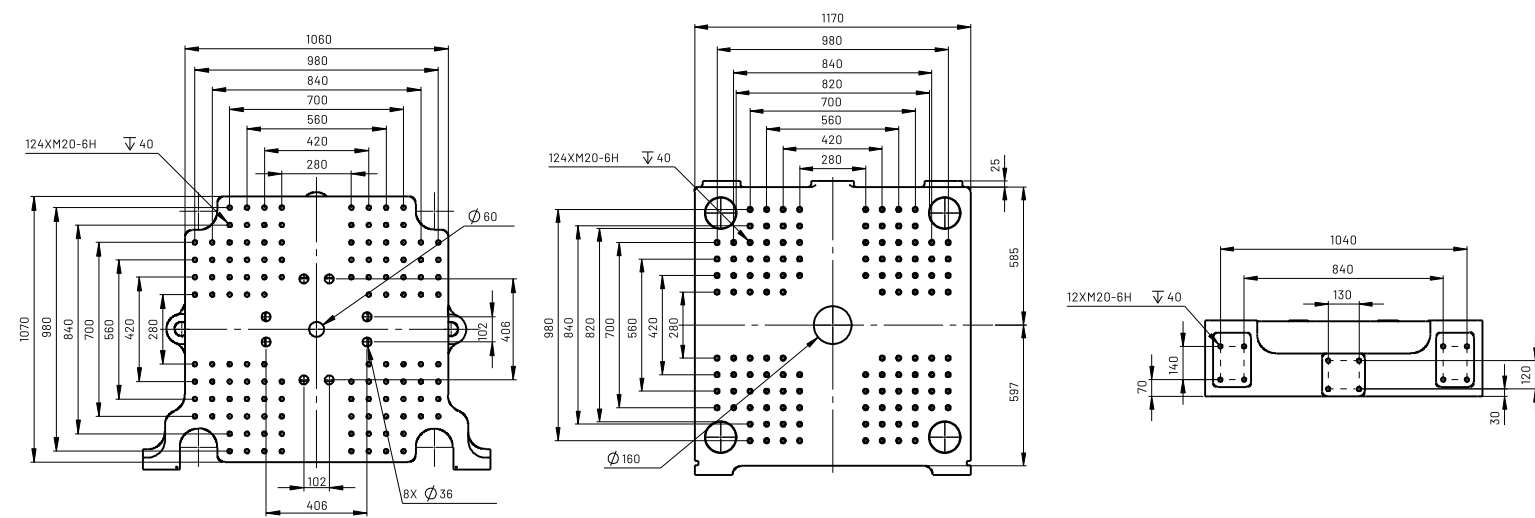
LA250



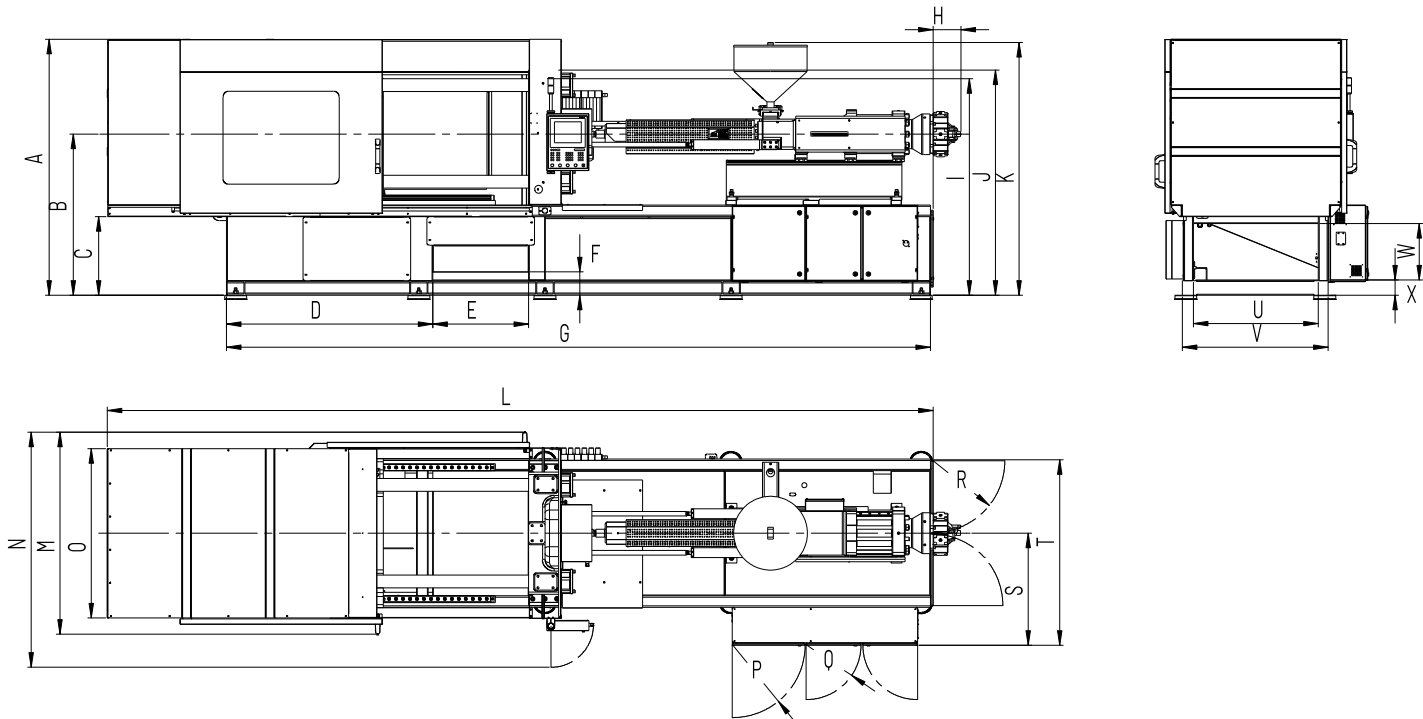
LA300



LA400



Machine Dimensions



Unit	LA50	LA100	LA150	LA200	LA250	LA300	LA400
A	1850	1950	2000	2000	2100	2200	2200
B	1180	1180	1180	1288	1340	1384	1464
C	675	675	675	675	675	675	675
D	710	1069	1075	1389	1549	1774	1975
E	576	576	576	725	725	825	825
F	200	200	200	200	200	200	200
G	3218	3810	3998	4865	5730	6055	6688
H	78	142	175	139	85	239	66
I	1297	1435	1495	1663	1755	1860	1995
J	1332	1495	1550	1738	1830	1935	2065
K	1744	1817	1839	2062	2129	2173	2273
L	3800	4540	4905	5892	6823	7103	7802
M	1355	1355	1355	1526	1628	1735	1862
N	1640	1640	1640	1814	1915	2021	2141
O	1075	1075	1075	1250	1350	1455	1580
P	625	625	625	625	625	625	625
Q	390	390	390	470	470	470	470
R	432	432	432	520	559	617	671
S	650	770	778	865	905	963	1020
T	975	1190	1230	1405	1485	1594	1715
U	705	705	705	880	960	1075	1190
V	885	885	885	1060	1140	1255	1364
W	484	484	484	484	484	484	484
X	131	131	131	131	131	131	131

Standard features

Injection unit

- 1 Screw cold start protection
- 2 Carriage movement with time/ position control
- 3 Double layers barrel protection cover
- 4 Pressure holding position/ time control
- 5 Nozzle safety cover
- 6 Auto purge function
- 7 Material feeding throat temperature display
- 8 Injection with linear guide rails
- 9 Carriage with linear guide rails
- 10 10-stage injection velocity/ pressure control
- 11 10-stage holding velocity/ pressure control
- 12 5-stage metering velocity/ pressure control
- 13 5-stage metering backpressure control
- 14 Proportional backpressure control
- 15 Carriage forward velocity/ pressure control
- 16 Carriage backward velocity/ pressure control
- 17 Injection position transducer
- 18 Carriage position transducer
- 19 Ceramic heater band
- 20 Individual temperature control for nozzle

Clamping unit

- 1 Mould platen with linear guide rails
- 2 5-stage mould opening/ closing velocity/ pressure control
- 3 Mould protection control
- 4 Electrical/ hydraulic safety interlock for clamping
- 5 Mould ejector backward end input (reserved)
- 6 Velocity, pressure and position control for ejection
- 7 Mould platen position transducer
- 8 Ejector position transducer
- 9 Product dropout chute

Hydraulic unit

- 1 Oil temperature alarm
- 2 Cooling water valves (6 sets)
- 3 Return line filter with clogging switch and alarm

Control unit

- 1 KEBA 2000 control system
- 2 2-color alarm lamp
- 3 Mould parameters recording
- 4 380V 16A waterproof power socket
- 5 220V 10A single phase socket
- 6 Waterproof socket with earth leakage protection device

Optional features

Injection unit

- 1 Bi-metal injection screw set
- 2 Proportional injection control
- 3 Heating controlled by solid state relay
- 4 Electrical metering
- 5 CANOPEN digital transducer for injection position
- 6 Holding switching by mould cavity pressure
- 7 Sliding hopper
- 8 Stainless hopper
- 9 Hopper dryer
- 10 Auto loader

Control unit

- 1 15" display
- 2 Energy consumption meter
- 3 LED lighting for cabinet
- 4 Control circuit UPS device (1KVA)
- 5 Heat exchanger for cabinet
- 6 Keba 5000 control system
- 7 32A waterproof power socket
- 8 3-color alarm lamp
- 9 Euromap 67 robot connecting interface
- 10 Low oil level alarm

Clamping unit

- 1 Euromap 70 magnetic clamp device connecting interface
- 2 CANOPEN digital transducer for mould platen position
- 3 Ejector with check valve
- 4 Hot-runner control
- 5 Push-pull structure for ejector (mechanical lock)
- 6 Quick mould change system (hydraulic/ pneumatic mould clamp)
- 7 T-slot mould mounting
- 8 Euromap 2 mould mounting pattern and T-slot
- 9 Mechanical interlock
- 10 Airblow
- 11 Euromap 13 core pulling/ejector connecting interface
- 12 Euromap 2 mould locating ring for fixed and moving platen
- 13 Euromap 18 robot mounting holes pattern
- 14 Robot arm
- 15 Water type/ Oil type mould temperature controller
- 16 Air-cold/ water-cold chiller
- 17 Hydraulic core pullingt

Hydraulic unit

- 1 Oil temperature preheating circuit
- 2 Cooling water valves (8/12/24 sets)
- 3 Directional valve with LED
- 4 Oil temperature control (oil cooler with water valve and thermocouple)