



# CM Series

Hydraulic RAM type CLF small injection molding machine



Being Advanced is Most Important at CLF.

## Delivering Superior Results and Excellence.

CHUAN LIH FA's CM series can offer:

- Small size high precision injection molding.
- Excellent clamp parallelism movement.
- Very stable production operation.
- Increased color or resin changing performance.
- Faster production cycle time.
- Optimal platen strength design to offer homogenous force on the mold.
- Operation interface inherited with convenience and human factors.
- Advanced injection technique - injection compression molding.
- Covers production management functions.
- Optional function of Ethernet interface with office computer to get quality control data.



CHUAN LIH FA

Machines for high accuracy injection molding requirements

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# Injection

- Dual injection cylinder with both sides of piston rod defining the smooth moving line, reduces resistance of the return oil, achieves high injection efficiency and accuracy.
- Injection unit swivel device for the convenience of changing screw and barrel.



- Forced exhaust fan to cool down the abrasion heat causes overheating, keeping stable production temperature.



- 1 Multi-design screw rod to match with different resins' requirements
- 2 Multi-design check ring
- 3 PID temperature control, barrel heating by SSR and nozzle control by SCR for constant temperature.



	HE	HT	HT2	HT3	HT4	HT5	HT6	HT7	
PLT	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
HT	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
HT2	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
HT3	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
HT4	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
HT5	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
HT6	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00
HT7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
HT8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
HT9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HT100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

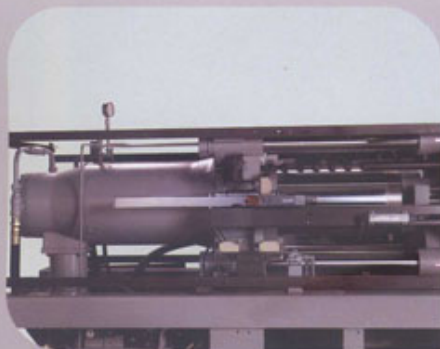
# Clamping



- Adjustable rollers support the weight of mold and platen and distribute to all the area homogenously for long life operation.

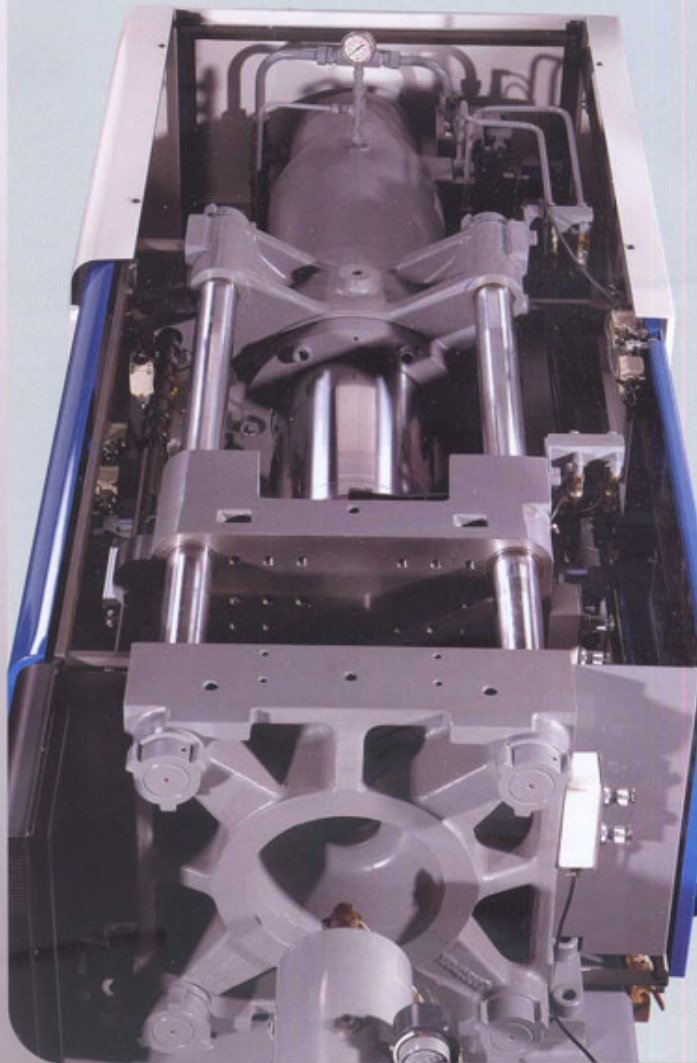


- Advanced injection compression function - 6 stages of product compression setting.

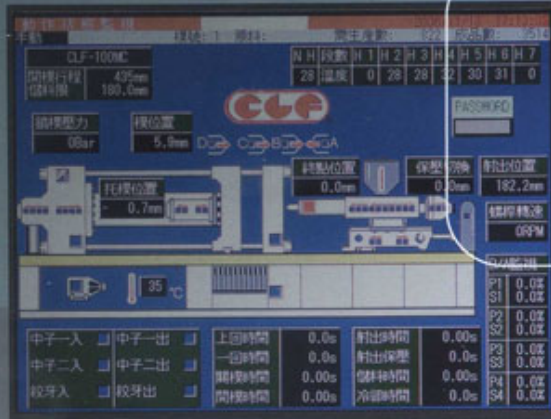


- 3 layers of electrical and mechanical clamp safety devices for the operator.

- Ram piston fastened to the moving platen sliding under the guide of clamp cylinder makes for very good parallelism of the mold close and open movement.



# Control

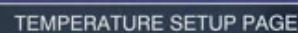
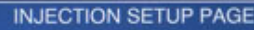
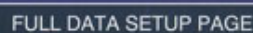
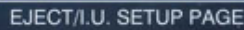
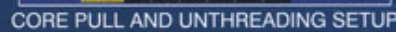
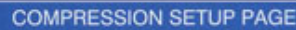
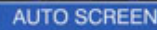


CLF-JD 通型 (中)

MADE IN JAPAN

- Advanced JD computer controller made in Japan.
- German made digital transmission for Injection and Clamp position high accurate detection.
- An isolated CPU for accurate temperature control and PID calculation, special nozzle temperature controlled by SCR.
- Mold moving brake circuit improves the smoothness of switching from high to low speed, protects the mold so as not to be impacted ensuring accurate production and long mold life.
- Closed loop proportional valves and amplifiers to control pressure and speed with stability and repeatability.
- Operator can set every key control parameter with an allowable range for alarm information, can also store 100 shots of reality production data in the controller memory for quality study.
- 100 sets of molding setting data storage in the controller and optional insert CF card for increase up to 800 sets of molding setting.
- 100 data change record.
- 100 alarm time and message record.
- Curves display for injection pressure and speed.
- Standard product pick-up robot interface.

## CM series



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# CM Series

Hydraulic RAM type CLF small injection molding machine



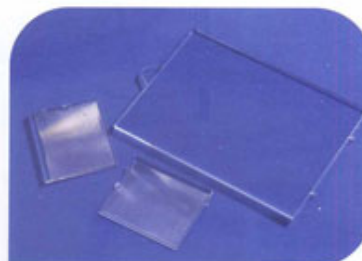
## Standard Accessories:

	FUNCTION	SPEC.
Injection control	Injection pressure & speed	6 zones
	Hold pressure and speed	3 zones
	Charge back pressure and speed	3 zones
	Decompression before charge	1 zone
	Decompression after charge	2 modes
	Screw RPM display	⊙
	Resin selection	⊙
	Charge distance as per shot weight	⊙
	Protrusion function	⊙
	Auto purge function	⊙
Temperature control	Barrel temperature control	4 zones
	Barrel control	SSR
	Nozzle temperature control	1 zone
	Nozzle constant temp. control	SCR
	Throat temperature control	1 zone
	Solenoid valve for throat cooling water	⊙
	Temperature control mode	PID
	PID parameter setting	Auto tuning
	Oil tank temperature reading and control	⊙
	Max. hyd. Oil temp. setting	60°C
	Cold screw protect delay 10 minutes	Selectable
	Barrel keep warm function	⊙
	One week heater auto ON / OFF setting	⊙
Mold movement control	Mold open pressure & speed	4 zones
	Mold close pressure & speed	4 zones
	Mold height setting	Auto
	Middle plate slow-down function	⊙
	Injection compression sequence control	6 zones
	Hyd. Ejector FWD/ BWD pressure and speed	2 zones eachs
	Vibration ejection	⊙
	Ejector backward end confirmation	⊙
	Core pull (limit switch or timer)	2 sets
	Receptacle for core pull confirmation	⊙
	Air ejector	2 sets
Functions of control system	CLF JD computer controller	⊙
	Product pick-up robot interface	⊙
	Monitoring during production	12 items
	No good product detection	⊙
	Pre-setting production count	⊙
	Package quantity achieve output and alarm	⊙
	Real production data record	100 shots
	Alarm record	100 no.
	Data changing record	100 no.
	Set data memory	Controller CF card
	10.4" TFT LCD display	⊙

## Specifications:

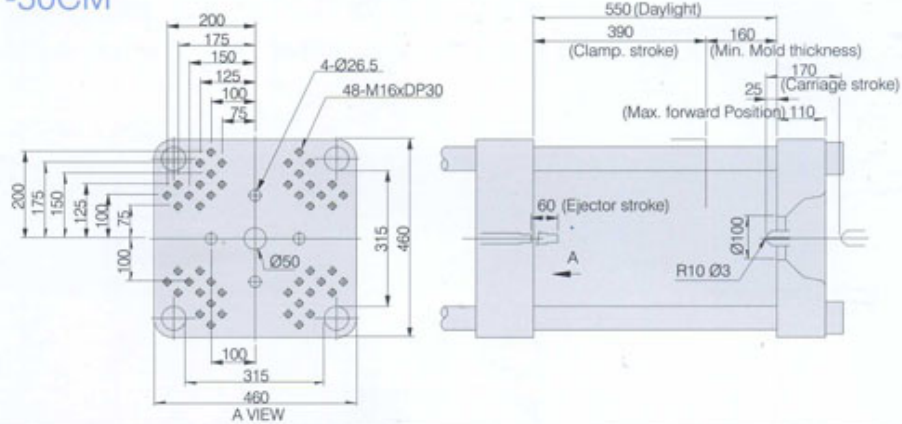
MACHINE MODEL		CLF-50CM		CLF-70CM		CLF-100CM		CLF-150CM		CLF-200CM		
INTERNATIONAL CODE		500H-137		700H-205		1000H-395		1500H-395		2000H-980		
INJECTION UNIT		UNIT										
Screw Diameter	mm	28	30	32	36	35	40	45	40	45	50	55
Theoretical Inj. Volume	cm <sup>3</sup>	68	78	117	148	173	226	286	226	286	491	594
Injection Pressure	kg/cm <sup>2</sup>	2009	1750	1750	1383	2285	1750	1382	1750	1382	1747	1444
Max. Injection Rate	cm <sup>3</sup> /sec.	80	92	104	132	96	126	159	160	202	228	276
Shot Weight in GPPS	Gram	61	70	105	133	156	204	258	204	258	443	536
Plasticizing Rate (GPPS)	g/sec.	8.5	9.8	9.8	12.4	15.8	20.7	26.1	23.1	29.3	34	41.2
Screw Rotation Speed	RPM	360		254		308		331		285		
Heating Zones	zone	5		5		5		5		5		
Heating Capacity	kw	3.4		6.5		7.45		9		13.9		
CLAMPING UNIT												
Distance Between Columns (H x V)	mm	315 x 315		375 x 375		415 x 415		515 x 515		615 x 615		
Dimension of Platens	mm	460 x 460		550 x 550		600 x 600		730 x 730		850 x 850		
Min. Mold Height	mm	160		170		180		200		230		
Mold Opening Stroke	mm	390		430		520		600		770		
Daylight	mm	550		600		700		800		1000		
Clamping Force	Ton(KN)	50(495)		70 (690)		100 (985)		150 (1475)		200 (1965)		
Ejector Stroke	mm	60		80		80		100		120		
Ejecting Force	Ton(KN)	1.76(17)		2.75(27)		4(39)		4(39)		5.4(52)		
GENERAL DATA												
Pump Driving Motor	Hp (kw)	20(15)		25(18.7)		30(22.4)		40(30)		50(37.4)		
Capacity of Hyd. Reservoir	Liter	190		270		320		480		700		
Machine Dimension (L x W x H)	m	3.4 x 1.2 x 1.66		4.0 x 1.2 x 1.63		4.65 x 1.2 x 1.63		4.9 x 1.35 x 1.76		5.9 x 1.45 x 1.88		
Net Weight	Ton	2.5		3.6		4.3		5.8		8.5		

• All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice.

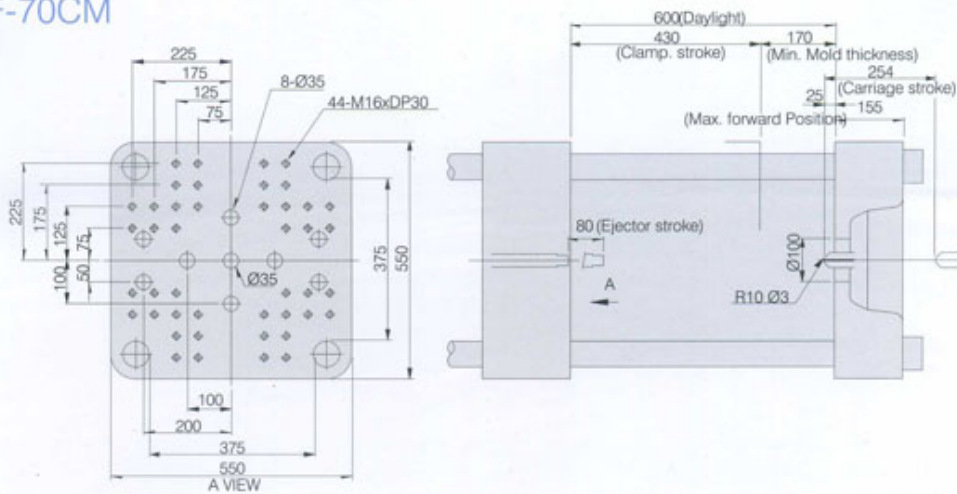


## Mold Platen Dimensions:

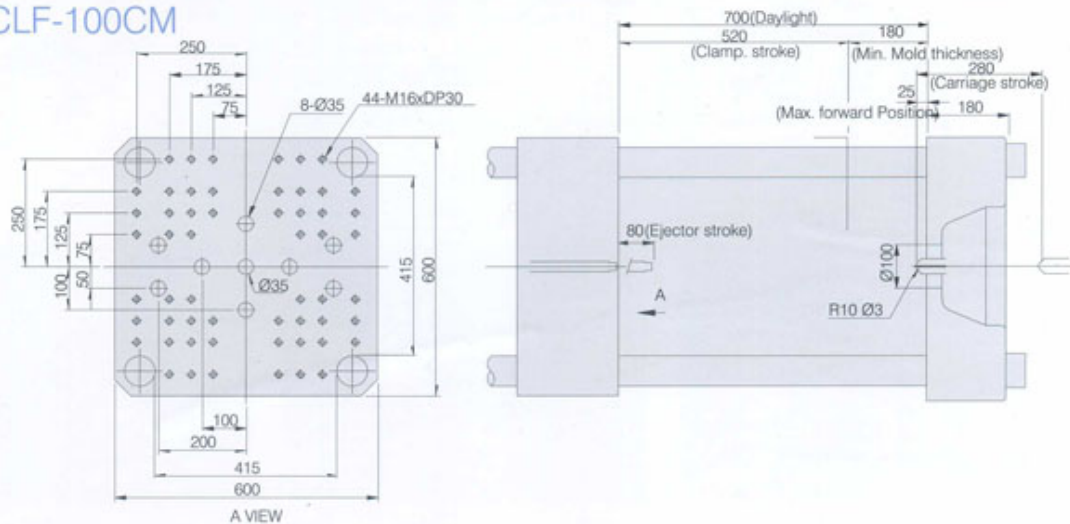
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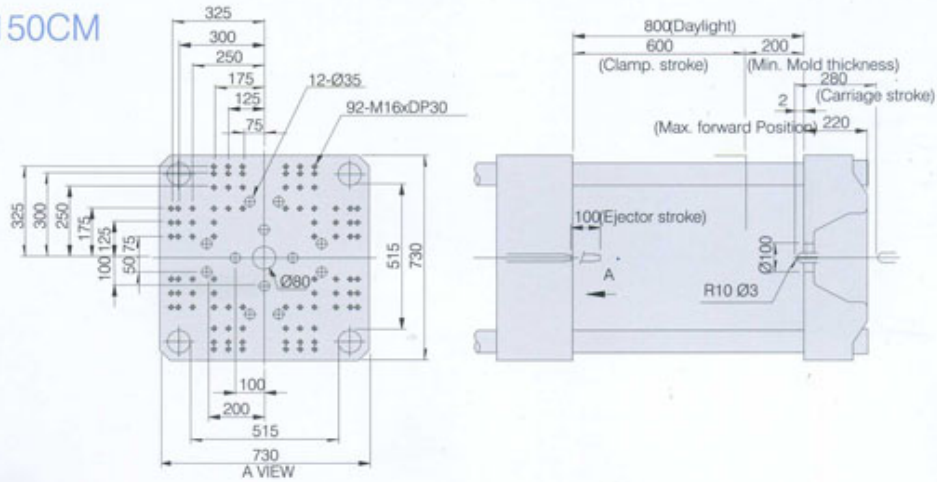
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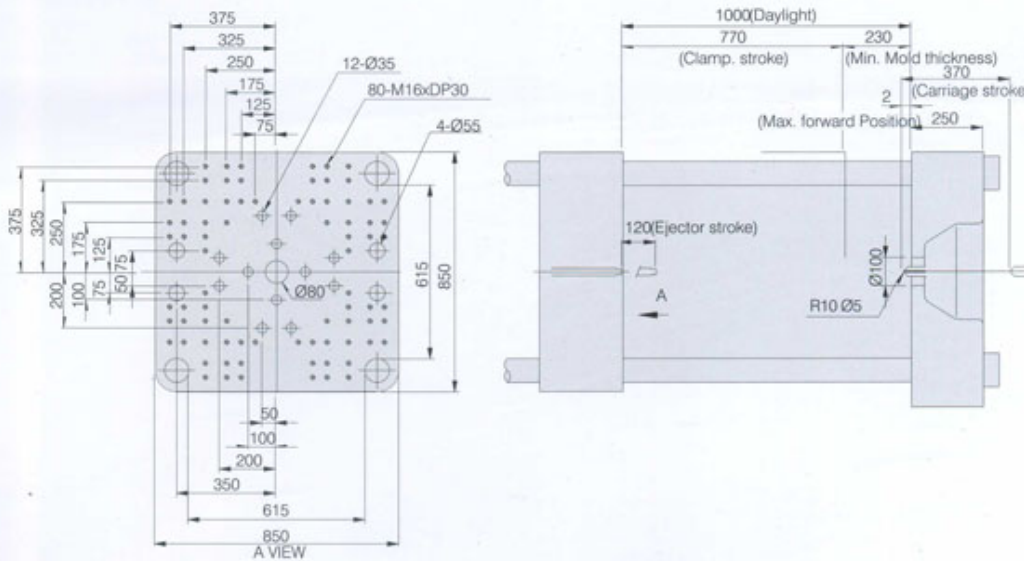
### CLF-100CM



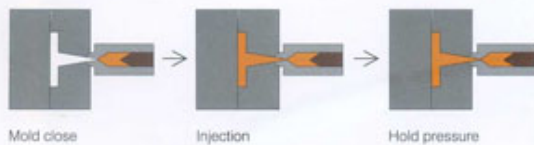
## CLF-150CM



## CLF-200CM



### No compression



### With compression



**CHUAN LIH FA MACHINERY WORKS CO., LTD.**

No. 17, Lane 360, Chung Cheng S. RD.  
Yuen-kang Dist. Tainan City 71047, Taiwan  
Tel: +886-6-253-2111 Fax: +886-6-253-3311, 254-8859  
<http://www.clf.com.tw> E-mail: [clf@clf.com.tw](mailto:clf@clf.com.tw)

**ZHONG-SHAN CHUAN LIH FA MACHINERY CO., LTD.**

No. 3, Nan-Tou Blvd., Nan-Tou Town, Zhong-Shan  
City, Guang-Dong Province 528427, China  
Tel: +86-760-311-6801~5 Fax: +86-760-311-6806

**HUA-DONG CHUAN LIH FA MACHINERY CO., LTD.**

2Nd Unit, No. 2, Hsin Pu Rd, Hsin County,  
Kwen Shan City, Jiang Xue Province, China  
Tel: +86-512-8616-3268 Fax: +86-512-8616-3278



**CHUAN LIH FA**

