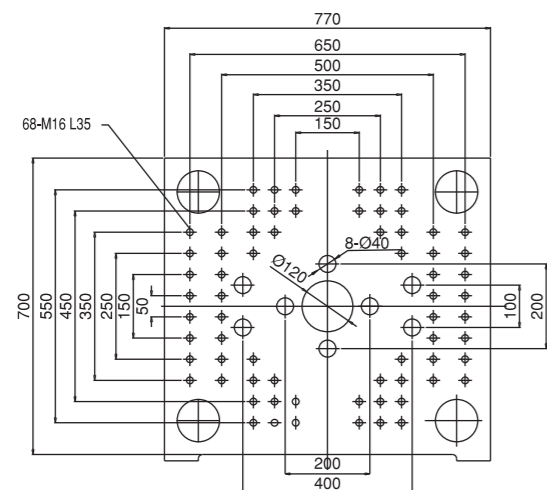


"Optima" Series Injection Molding Machines - Technical Specifications																				
Machine Model - Optima	175-837-18 STD.					175-837-24					175-941-18			175-941-24			175-910-28			
International Code	1750H-837					1750H-837					1750H-941			1750H-941			1750H-910			
Injection Unit number	837					837					941			941			910			
Injection Unit	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C		
Screw diameter	mm	50	55	60	50	55	60	55	60	67	55	60	67	55	60	67	55	60	67	
Screw L/D ratio		21	19	17	21	19	17	21	19	17	21	19	17	21	19	17	21	19	17	
Stroke volume	cm ³	396	480	571	396	480	571	539	642	800	539	642	800	539	642	800	539	642	800	
Injection weight max. *	g	377	456	542	377	456	542	512	609	760	512	609	760	512	609	760	512	609	760	
Injection rate #	cm ³ /s	98	118	141	128	155	184	118	140	174	155	184	230	182	216	269				
Plasticizing rate #	g/s	19.1	26.1	31.1	25.1	34.4	40.9	23.3	28.1	33.5	30.7	37.1	44.2	36.0	43.6	51.9				
Injection Pressure	bar	2112	1745	1466	2112	1745	1467	1745	1467	1176	1745	1467	1176	1687	1418	1137				
Screw rpm	min-1	164					216					135			178			209		
Clamping Unit																				
Clamping force	kN	1750					1750					1750			1750			1750		
Mold opening stroke	mm	460					460					460			460			460		
Dist. Bet. Tie bars, H X V	mm	520x450					520x450					520x450			520x450			520x450		
Mold thickness, min. - max.	mm	200-480					200-480					200-480			200-480			200-480		
Ejector stroke	mm	100					100					100			100			100		
Ejector force	kN	46.7					46.7					46.7			46.7			45.2		
Ejector number	pcs	9					9					9			9			9		
General Data																				
Pump drive	kW	15.0					18.5					15.0			18.5			22.0		
Installed heating capacity	kW	15.9					15.9					18.43			18.43			18.43		
Total Connected power	kW	30.9					34.4					33.43			36.93			40.43		
Oil tank capacity	L	400					400					400			400			400		
Machine dimensions, L x W x H	m	5.2 x 1.8 x 2.0			5.2 x 1.8 x 2.0			5.2 x 1.8 x 2.0			5.2 x 1.8 x 2.0			5.2 x 1.8 x 2.0			5.2 x 1.8 x 2.0			
Net weight (without oil)	T	6.6					6.6					6.6			6.6			6.6		

NOTE : # Achieved in air injection. * Theoretical value; actual value may vary depending on material, melt density & residence time
 . Specifications are subject to change due to continuous improvements . To be used strictly under standard electrical supply conditions of 415V± 5% MAX., 50 Hz, 3 Phase + N.

Optima 175



OPTIONAL FEATURES

- Additional core pulling control set for hydraulic cores, independently programmable for sequential or parallel operation.
- Air blast with pneumatic valve on moving / stationary platen.
- Rotating core (hydraulic un-screwing) interface.
- Electrical un-screwing interface.
- Robotic arm interface - Std. or Euromap - 12.
- Photo-sensor arrangement for molded part drop detection, recommended for single cavity.
- Interface for ejector retract (back) verification with limit switch.
- Inbuilt 'Electra Power Saver'.

- Variable displacement Pump.
- Interface for additional nozzle heater band (plug-in only).
- Special screws for better melt homogenization and plasticizing.
- Wear resistant / corrosion resistant, bimetallic screw and barrel for processing abrasive / corrosive materials.
- Hydraulic motor for higher plasticizing rates.
- Insulated energy saving heater bands.
- Water battery with flow rate control and temperature indicator.
- Feed throat temperature indication.
- Accumulator for higher injection rates.
- Back pressure adjustment through controller.



Nationwide Sales & Service Network

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Optima Series
 energy efficient

45 to 175 Ton

Injection Molding Machines



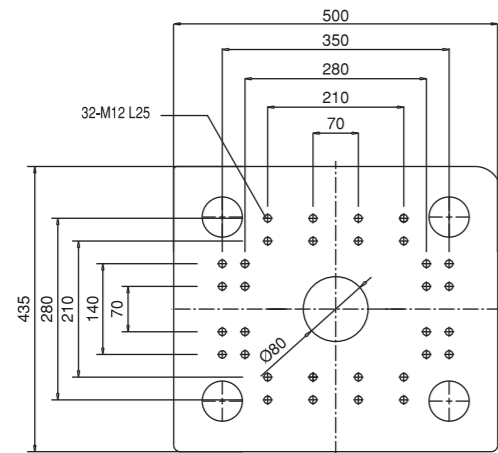
.... THE OPTIMIZED MOLDING SOLUTION



‘Optima’ Series Injection Molding Machines - Technical Specifications																																																																
Machine Model - Optima	45-110-7 STD.			45-128-8			45-186-10			45-200-12			75-128-8			75-186-10 STD.			75-200-12			75-415-12			75-430-14			100-200-12			100-415-12 STD.			100-430-14			100-545-14			100-564-18			125-430-14			125-545-14 STD.			125-564-18			125-837-18			125-837-24			175-564-18						
International Code	450H-110			450H-128			450H-186			450H-200			750H-128			750H-186			750H-200			750H-415			750H-430			1000H-200			1000H-415			1000H-430			1000H-545			1000H-564			1250H-430			1250H-545			1250H-564			1250H-837			1250H-837			1750H-564						
Injection Unit number	110			128			186			200			128			186			200			415			430			200			415			430			545			564			430			545			564			837			837			564						
Injection Unit	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C				
Screw diameter	mm	28	31	35	28	31	35	31	35	40	31	35	40	28	31	35	31	35	40	31	35	40	40	45	50	40	45	50	31	35	40	40	45	50	40	45	50	45	50	55	45	50	55	40	45	50	45	50	55	45	50	55	50	55	60	50	55	60	45	50	55			
Screw L/D ratio	L/D	21	19	17	21	19	17	22	19	17	22	19	17	21	19	17	22	19	17	20	18	16	20	18	16	20	18	16	22	19	17	20	18	16	21	19	17	21	19	17	21	19	17	20	18	16	21	19	17	21	19	17	21	19	17	21	19	17	21	19	17			
Stroke volume	cm³	68	83	106	68	83	106	102	130	170	102	130	170	68	83	106	102	130	170	102	130	170	203	258	318	203	258	318	102	130	170	203	258	318	286	353	427	286	353	427	203	258	318	286	353	427	286	353	427	396	480	571	396	480	571	286	353	427						
Injection weight max. *	g	64	79	100	64	79	100	97	123	161	97	123	161	64	79	100	97	123	161	193	245	302	193	245	302	193	245	302	97	123	161	193	245	302	272	336	406	272	336	406	193	245	302	272	336	406	272	336	406	377	456	542	377	456	542	272	336	406						
Injection rate #	cm³/s	45	56	71	53	65	83	56	72	94	69	88	115	53	65	83	56	72	94	70	89	116	67	85	105	73	93	115	70	89	116	67	85	105	73	93	115	79	98	118	104	129	156	73	93	115	79	98	118	105	129	157	98	118	141	128	155	184	105	129	157			
Plasticizing rate #	g/s	5.2	6.3	8	5.3	7.5	9.6	6.1	9	9.9	7.5	11.1	12.2	5.3	7.5	9.6	6.1	9	9.9	7.2	10.7	11.8	11.5	14.1	17.4	12.6	15.5	19.1	7.2	10.7	11.8	11.5	14.1	17.4	12.6	15.5	19.1	14.1	19.2	23.2	18.7	25.4	30.7	13.0	15.9	19.6	14.1	19.2	23.2	21.5	26.6	32.2	19.1	26.1	31.1	25.1	34.4	40.9	21.5	26.6	32.2			
Injection Pressure	bar	1618	1320	1036	1897	1548	1214	1826	1433	1097	1961	1538	1178	1897	1548	1214	1826	1433	1097	1961	1539	1178	2042	1613	1307	2112	1669	1352	1961	1539	1178	2042	1613	1307	2112	1669	1352	1905	1543	1275	1970	1596	1319	2112	1668	1351	1905	1543	1275	1970	1596	1319	2112	1745	1467	2112	1745	1467	1970	1596	1319			
Screw rpm	min-1	152			177			154			190			177			154			190			162			178			190			162			178			160			212			178			160			212			178			160			212					
Clamping Unit																																																																
Clamping force	kN	450			450			450			450			750			750			750			750			750			1000			1000			1000			1000			1000			1250			1250			1250			1250			1250			1750					
Mold opening stroke	mm	220			220			220			220			300			300			300			300			300			300			340			340			340			340			340			340			400			400			400			460					
Dist. Bet. Tie bars, H X V	mm	300x234			300x234			300x234			300x234			350x310			350x310			350x310			350x310			350x310			350x310			410x370			410x370			410x370			410x370			410x370			410x370			450x385			450x385			450x385			450x385			520x450		
Mold thickness, min. - max.	mm	150-300			150-300			150-300			150-300			125-310			125-310			125-310			125-310			125-310			125-310			150-360			150-360			150-360			150-360			150-360			160-400			160-400			160-400			160-400			200-480					
Ejector stroke	mm	50			50			50			50			65			65			65			65			65			65			80			80			80			80			80			80			100			100			100			100					
Ejector force	kN	28.5			33.4			26.5			28.5			33.4			26.5			28.5			28.5			29.4			28.5			28.5			29.4			28.5			29.4			46.7			45.2			46.7			46.7			46.7								
Ejector number	pcs	1			1			1			1			1			1			1			1			1			1			5			5			5			5			5			5			5			5			9								
General Data																																																																
Pump drive	kW	5.5			7.5			7.5			9.3			7.5			7.5			9.3			9.3			11.0			9.3			9.3			11.0			11.0			15.0			11.0			11.0			15.0			15.0											
Installed heating capacity	kW	6.46			6.46			7.65			7.65			6.46			7.65			7.65			10.30			10.30			7.65			10.3			10.3			13.75			13.75			10.30			13.75			13.75			15.90			15.90			13.75					
Total Connected power	kW	11.96			13.96			15.15			16.95			13.96			15.15			16.95			19.60			19.60			21.30			16.95			19.60			21.30			24.75			24.75			28.75			28.75			30.90			34.40			28.75					
Oil tank capacity	L	150			150			150			150			200			200			200			200			200			260			260			260			260			260			300			300			300			300			400								
Machine dimensions, Lx W x H	m	3.5 x 1.5 x 1.7			3.5 x 1.5 x 1.7			3.5 x 1.5 x 1.7			3.5 x 1.5 x 1.7			3.5 x 1.6 x 1.8			3.5 x 1.6 x 1.8			3.5 x 1.6 x 1.8			3.5 x 1.6 x 1.8			3.5 x 1.6 x 1.8			3.5 x 1.6 x 1.8			4.2 x 1.7 x 1.9			4.2 x 1.7 x 1.9			4.2 x 1.7 x 1.9			4.2 x 1.7 x 1.9			4.2 x 1.7 x 1.9			4.5 x 1.8 x 2.0			4.5 x 1.8 x 2.0			4.5 x 1.8 x 2.0			4.5 x 1.8 x 2.0			5.2 x 1.8 x 2.0					
Net weight (without oil)	T	2.8			2.8			2.8			2.8			3.7			3.7			3.7			3.7			3.7			4.3			4.3			4.3			4.3			4.3			4.3			5.5			5.5			5.5			5.5			6.6					

NOTE : # Achieved in air injection. * Theoretical value; actual value may vary depending on material, melt density & residence time - Specifications are subject to change due to continuous improvements - To be used strictly under standard electrical supply conditions of 415V± 5% MAX., 50 Hz, 3 Phase + N.

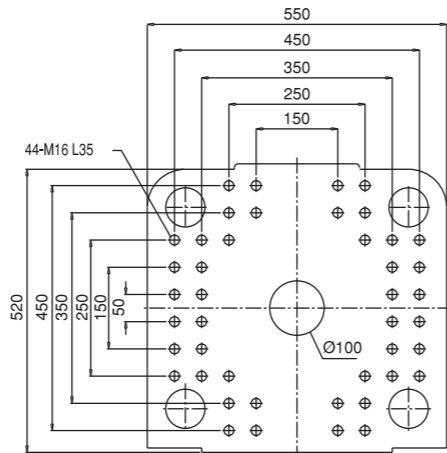
Optima 45



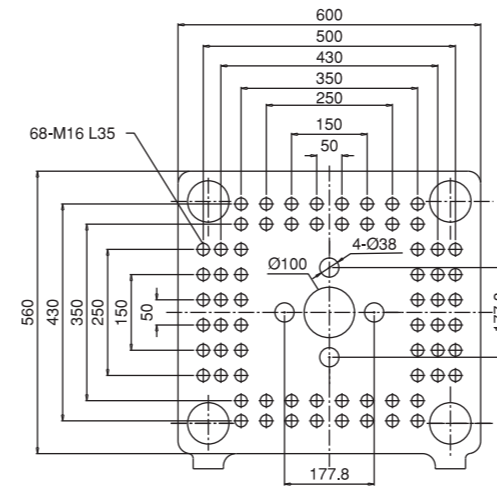
Platen Dimensions

Moving platen

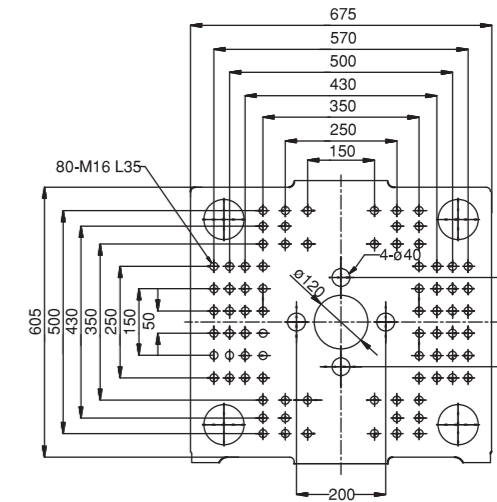
Optima 75



Optima 100



Optima 125



Optima Series

Clamping force: 450 - 1750 kN

“Optima” series machine is characterized by :

- The proven & reliable design with an attractive price to performance ratio.
- Flexibility to enhance the functions by the additions of various options.
- Energy efficient.
- CLAMP**
 - Sturdy and optimized five-point double toggle system, known for its quick mold open and close movements along with its good mold safety characteristics; is one of the most preferred clamping mechanism in the world.
 - Sturdy and optimized platen design.

- Hard chrome plated, high tensile steel tie bars.
- Stress-relieved sturdy machine base frame.
- Closing and opening speeds, pressures and positions independently settable. Each programmable in 05 stages.
- Linear position transducer for accurate clamp position control.
- Auto-lubrication with grease, based on number of clamp cycles.
- Self-lubricating bushes for toggle mechanism.
- Automatic, motorized mould height adjustment sensed through proximity switch.
- EJECTOR**
 - Central hydraulic ejector with multiple stroke feature. Speed, pressure and position independently settable in both directions.

- Linear position transducer for accurate ejector position control.
- Ejector forward speed and pressure programmable in two stages.
- INJECTION**
 - Wide choice of injection units with A/B/C screw/barrel combinations.
 - Fitted with nitrided screw and nitrided barrel, non-return valve and barrel closure assembly with open nozzle suitable for various thermoplastics.
 - Injection speed and pressure profile programmable in 06, position dependent stages.
 - Follow up/hold on pressure profile programmable in 05, time dependent stages.
 - Screw speed control profile programmable in 05, position dependent stages.

- Strong & balanced twin cylinder injection unit distributes the load/pressure equally along the screw centerline.
- High torque, low speed direct hydraulic screw drive.
- Proven screw geometry for optimum plasticizing capacities with excellent melt homogeneity.
- Switch over from fill to pack based on position or time.
- Linear position transducer for accurate injection position control.
- TEMPERATURE CONTROL**
 - 4 / 5 self-optimizing temperature control zones/circuits for the barrel and nozzle flange heating system.
 - PID controlled barrel heater bands, with solid state relays and fast blowing semi conductor fuses for barrel heating system.

CONTROLS

- Intelligent operator-machine interface with large TFT, multi-color display, with alpha numeric keyboard.
- Actual position measuring/indicating system for moving platen, screw travel and ejector.
- Overview screen with live display of machine operations.
- Continuous process control via monitoring of important process parameters with selectable tolerance band.
- Data storage on USB.
- Internal storage of up to 200 sets of mold data.
- Important parameters as well as hourly production data monitoring.

HYDRAULICS

- Ergonomically designed easy to access and easy to service hydraulic circuit layout.
- Hydraulic oil tank with large and easy access for cleaning.
- Fast responding hydraulic door safety interlock.
- GENERAL**
 - Ergonomically designed machine covers and doors for safety, with elegant aesthetics.
 - Flexible machine support with anti vibration pads.
 - Set of electrical output - single phase (1 x 16 A) and three phase (1 x 32 A) sockets.