MILACRON®

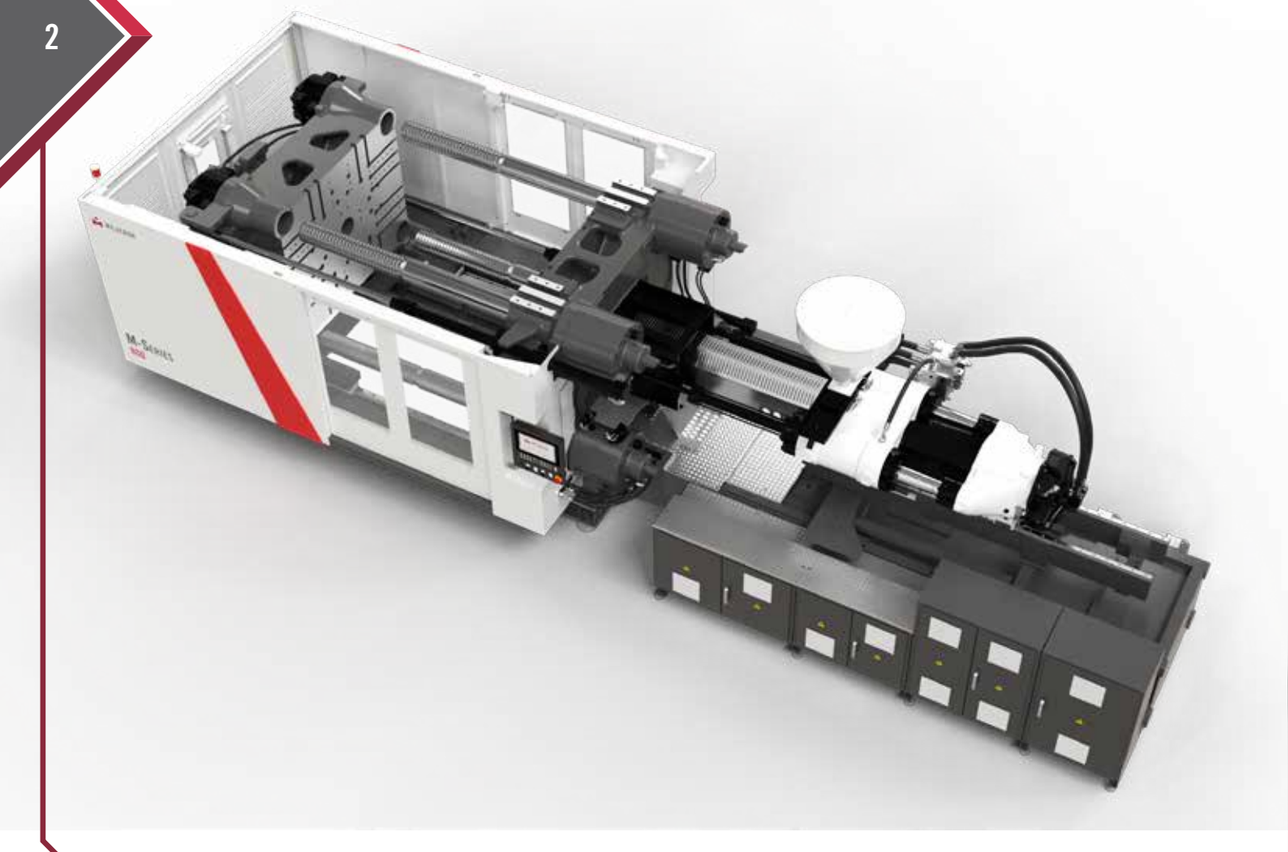
THE M-SERIES

450-1100 TON

THE M-SERIES

450-1100

Introducing the next generation in Milacron's cutting edge two platen technology. Milacron expands on its industry leading mid tonnage machine product offering through the introduction of the M-Series. Powered and driven by the energy-efficient and highly reliable servo motor power pack, the M-Series' enhanced machine specifications and performance offers improved reliability, higher max mold weights, faster clamp speeds, and a compact footprint. The M-Series is a true global machine in design, performance, and reliability.



PROVIDING THE HIGHEST PERFORMANCE, POWER, AND RELIABILITY IN A COMPACT FOOTPRINT

- Clamp & Injection on LM guides
- Highly Reliable Tonnage Assembly
- T-Slots With Tapped Holes
- Better Eject Access
- Environment Friendly
  - Reduced Footprint
  - Reduced Oil Requirement
  - Reduced Dry Cycle Time
  - Reduced Power Consumption
  - Reduced Lubrication Requirement
- Injection Unit: Modular Design
- Injection Regenerative Circuit
- Leak free joints
- High Pressure Hoses – 5000 psi
- New 15.6" Mosaic G3 Control

M-SERIES

COMPACT 2 PLATEN TECHNOLOGY

- Rigid platen design providing deflection matching center tonnage design platens
- Compact footprint
- Increased max mold weights
- Enhanced performance and reduced Euromap 6 dry cycle times

NEXT GENERATION TONNAGE ASSEMBLY

- Fully supported strain rods to enhance the life of the strain rods and sealing system.
- Equal distribution of tonnage load on the threads due to the conical design tonnage piston
- Synchronized Tonnage & Pancake Cylinder
- Precise and Short Tonnage Build up time
- Higher break away force available as standard

MULTIPLE STANDARD INJECTION FRAMES

- A'-A-B barrel combination for application flexibility
- Twin cylinder injection unit distributes the force evenly across the screw centerline
- Precision linear guides for accurate screw and barrel alignment
- Standard injection unit swivel for ease of maintenance

MODULAR PRODUCT DESIGN

- Standard Torque Motor
- High Torque Motor (Optional)
- E Drive (Optional)

CLAMP ON LM GUIDES

- Frictionless Movement
- Enhanced Platen Parallelism & Squareness – Increase Mold Life
- Excellent Mold Safety – Moving pressure reduced by up to 80%
- Contactless Strain Rods
- Ready for Stack Mold Technology

MOSAIC G3 CONTOL

- 3rd Generation Control with Intel Atom 1.6 GHz Quad Core Processor
- 4GB DDR4 RAM, 15.6" FHD Multi Touch Capacitive Display
- Multicolor LED for status keys
- Frequently used pages can be added to Favorites

HIGHLY RELIABLE SERVO SYSTEM

- Compact size servo motor
- High dynamics
- Low inertia
- Higher power density - High torque with lower current.
- EMI Filters included for better noise supression & life of other electronic components
- Suitable for all applications

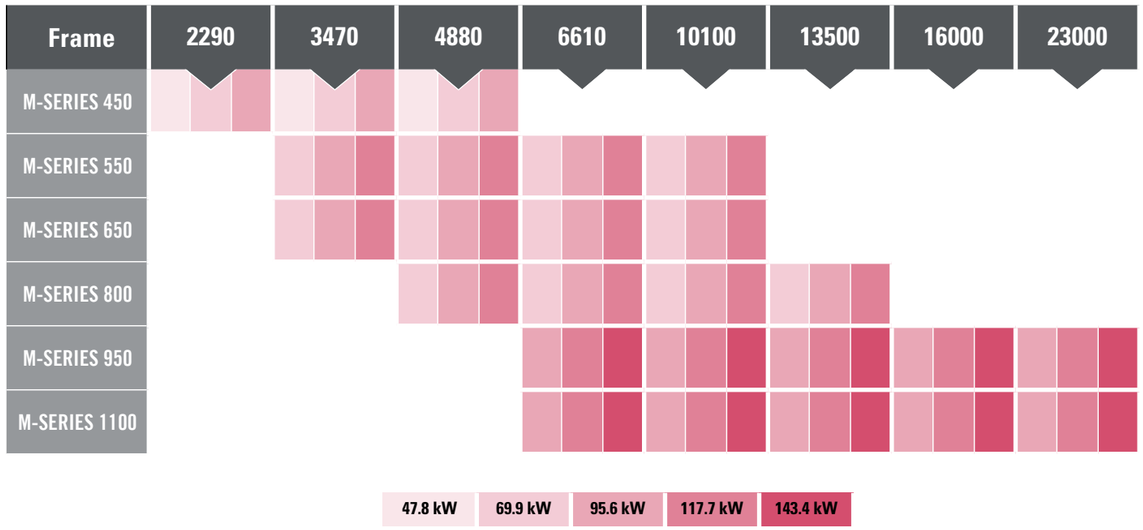
**SMALLER.
FASTER.
BETTER.**

Machine displayed contains non-standard options and gate/guarding modifcations for visual access

M-SERIES

Realize the benefits of configuring a machine that is perfectly suited to your production requirements.
The M–Series has expanded options available and can be configured for a large range of parts and applications by combining the clamp and injection unit with screw and barrel combinations.

INJECTION UNIT SPECIFICATIONS



CLAMP SPECIFICATIONS

MODEL	TONNAGE	MOLD WEIGHT CARRYING CAPACITY	TIE BAR SPACING	MAX DAYLIGHT	MIN / MAX MOLD
	kN	Kg	mm	mm	mm
M-SERIES 450	4500	7000	920 x 920	1850	400 / 900
M-SERIES 550	5500	9500	1100 X 920	2000	400 / 1000
M-SERIES 650	6500	12000	1150 X 1000	2050	450 / 1100
M-SERIES 800	8000	17000	1350 X 1100	2300	500 / 1200
M-SERIES 950	9500	19500	1500 X 1120	2500	600 / 1300
M-SERIES 1100	11000	23500	1550 X 1200	2600	600 / 1400

APPLICATIONS

The M-Series is designed to meet the changing demands of a global market. The M-Series is designed with oversized clamp specs, greaseless part drop and precision linear ways.

- *AUTOMOTIVE*
- *HOME APPLIANCES*
- *MATERIAL HANDLING*
- *STORAGE & TRANSPORT CONTAINERS*
- *HOUSEHOLD FURNITURE*

FEATURES

GENERAL	Standard	Optional
Advanced 2 Platen Technology powered by energy efficient servo motor hydraulic system	●	
Direct control of pressure and flow via internal gear pumps	●	
Multiple servo motor system for optimum efficiency and inde-pendent operations of eject and core pull (550T-1100T)	●	
Improved layout of manifolds and hoses on non-operator side	●	
Monitored shut off valve to pump suction lines	●	
Designed for serviceability (test ports, access, etc.)	●	
Independent full time kidney-loop filtration and cooling 3 Micron (Optional external filtration system)	●	
Filtration to 3 micron with clog detection and alarm	●	
Ports for external auxiliary filtration plumbing	●	
High base designs for part removal		○
Robot Interface as per EUROMAP 67		○
EUROMAP Robot mounting pattern on stationary platen	●	
SPI Robot mounting pattern on stationary platen		○
Electric Power operated operator's gate M550T-1100T machines. Optional for High base machines	●	○
Ejector area safety interlocked access door	●	
Flareless bite type fittings with elastomeric seals for hydraulic tubes connections	●	
Improved mold area access (Optional mold area platform)	●	○
Ventilated control cabinet mounted outside of base with over temperature alarm	●	
Air conditioner for servo cabinets		○
Air conditioner for servo cabinets & control cabinets		○
Leveling pads	●	
Y strainer in heat exchanger inlet for all machines	●	
Separate IN/OUT connection for cooling water requirements of heat exchanger and feed throat	●	
UPS for Controller	●	
Power on push button preset on control cabinet left door to reset control supply after machine power supply failure	●	
UV/OV monitoring Relay-Voltage monitoring relay	●	
Surge suppressor device	●	
Non operator side cycle interrupt buttons	●	
Spring Mould Feature	●	

MACHINE POWER PACK	Standard	Optional
3 Performance Levels available Standard / Increased / Performance	●	

IoT	Standard	Optional
M-Powered		○

STANDARD SAFETY STANDARDS	
Voltage	415/3/50

CLAMP	Standard	Optional
2 Platen Clamp design with tonnage pads on Stationary	●	
Synchronized Integrated Nut Lock System	●	
Compact footprint	●	
Increased max mold weight capacity	●	
Reduced (Euro-map 6) dry cycle times	●	
Position based ramping of the Moving Platen	●	
T Slot Platens with threads with die locating ring on stationary platen as per Euromap	●	
Extended moving platen support shoes riding on LM guideways	●	
Replaceable die locating ring on stationary platen	●	
Pre-clamp open sequence	●	
Generously tapered conical hole in stationary platen	●	
Traverse cylinders for fast traversing speeds and mold break-away force	●	
Increased breakaway force using main cylinder area	●	
Chrome plated strain rods	●	
Clamp & Eject Motion Key (Up to 650T)	●	
Auto Lubrication for Lock nuts		○

INJECTION	Standard	Optional
Twin cylinder injection units for compact footprint	●	
Parallel mounted twin pull-in cylinders for even nozzle force distribution	●	
Closed loop injection pressure and velocity control (Thru Pump)	●	
ON/OFF valve feed throat temperature alarm	●	
Injection fill to pack by screw position, volume, pressure, or time	●	
Direct drive single stage hydraulic screw motor	●	
Pin Type Slide Ring		○
Nozzle contact force by pressure switch Transducer	●	
Spruebreak by timer	●	
Solid State relays for barrel heats	●	
Injection unit swivel for easy nozzle, screw, and barrel mainte-nance (power swivel 10100 and larger)	●	
J-Style Thermocouples	●	
Hopper slide with shutoff, open/close, op side emptying Optional powered slide	●	○
Ceramic Insulated heater bands	●	
Heater zones labeled per Euro map 5	●	
Barrel ID plugs / control pre-configured for (A', A, B) barrel combinations		○
Enhanced injection rate up to 10% through regenerative injec-tion fill (reduced max pressure)	●	
Nozzle tip with 15 mm radius and 4.5 mm orifice upto 10100 injection unit	●	
Nozzle tip with 20 mm radius and 6.0 mm orifice upto 13500 and larger Injection Unit	●	
Pre-Injection (Injection along with Clamp force build up)		○
Parallel operation for mould movement, ejector and plasticizing		○

● - Standard Feature ○ - Optional Feature

FEATURES

CONTROL & SOFTWARE	Standard	Optional
15.6" FHD Multi-Touch Capacitive Display (MOSAIC G3 Control)	●	
20 function keys with LEDs (arranged around the Touch Screen)	●	
Actual Injection Speed & Pressure Graph Display	●	
30 Parameter monitoring for last 3000 cycles	●	
500 Mold data storage	●	
High / Low Limit Display for Each Adjustable Parameter	●	
I/O diagnosis - Analog & Digital	●	
Manual in PDF format for help	●	
Overview Menu for Easy access of all axis parameters	●	
Choice of Multiple Languages	●	
Unit Selection (Metric or English)	●	
Data Protection with four level of access	●	
Graphical Representation of last 48 Hours Production	●	
Daily Production Data of last 1 Year	●	
Graphical Representation of Cycle Analysis	●	
Energy Consumption analysis for each axis (Energy display in kWH for every cycle on MMI)	●	
Automatic Reporting of Process Data, Alarms, Change log (USB or Network location)	●	
Change Log Menu:logs last 3000 Set Points Changes with Time/ Date & User	●	
3000 Alarms History with Date & Time Log	●	
Process Mode:Functions with its Co-functions on a Single Key Press	●	
Note Pad	●	
Freely Programmable Smart Outputs & Inputs (total 3 inputs and outputs)	●	
Freely Configurable Cores, Ejector & Air	●	
4 User Configurable actual parameters for ease of monitoring for operator	●	
Soft Keys for selection of Cores, Air & Mold Gates to operate in Set/Manual Mode	●	
Favorite Page - Select 4 frequently used pages & operate from single page	●	
Graphical adjustment of Clamp & Extruder Speeds & Pressure	●	
Graphical display of Actual Zone Temperature of last 30 mins.	●	
Favourite Page - Select 5 frequently used pages & operate from single page	●	
Filtering of Alarm - Helps in quick analysis of specific alarm	●	
Filtering & sort of Changelog - Helps in quick review / analysis of parameter changes	●	
Configurable FlyOut area for viewing frequently used Monitoring Pages	●	
No Page more than two click away	●	
Auto shut down	●	
Visual & Audible Alarm	●	
Set point and actual values shown as absolute values	●	
Pausibility check on values entered	●	
Data saving in USB-Mold Data, Change log, Trend Data, Log book, Alarm History, Screen Shot	●	
Shift wise Production Counter	●	
Servo Motor / Drive diagnostic screen	●	
Semi Auto Purge	●	
Cold slug removal by extruder/ Injection	●	
Intrusion Molding	●	
Insert Molding	●	
Freely Programmable Core pull Sequence	●	
Sprue break with Limit Switch	●	

CONTROL & SOFTWARE	Standard	Optional
2 free editing cores are controlled by the robot / Std EM 67	●	
Mold Guard	●	
Ejector Guard	●	
Injection Acceleration Control Auto Modes	●	
Automatic log off	●	
Shift based Production Counter	●	
Logbook Reading of Controller on screen	●	
Robot Interface (SPI & Euromap -12 & -67)		○
Eject Retract verification by Limit Switch		○
Good / Defective Part Signal		○
Gas Assist injection Interface		○

EJECT	Standard	Optional
Machine mounted eject system (SPI)	●	
Machine mounted eject system (JIS)		○
Pilot operated check valve for machine eject system	●	
Pulsating ejection	●	
Position transducer used for setup and readout of ejector positions	●	
Proportional control of eject speed thru Pump (operator adjustable at control)	●	
Two forward eject speed set points	●	
Eject forward dwell timer	●	
Eject retract override	●	
Intermediate eject retract set point	●	
Eject on fly / Independent eject 550T-1100T Optional 350T-450T	●	○
Eject retract limit switch verification (software/signals only)	●	
Key Eject Motion (800 & Above)	●	

SPECIAL OPTIONS	Standard	Optional
Part Drop Detector with 3 photo Sensors		○
MGO Hydraulic : Up to 12 Nos		○
MGO Pneumatic : Up to 12 Nos		○
Interface for MGO Hydraulic : Up to 12 Nos		○
Interface for MGO Pneumatic : Up to 12 Nos		○
Tie Rod Puller,non operator side injection end		○
Platform Hopper		○
Platform mold area with Safety mat		○
Power gate Electric (350T - 450T)		○
Steps in to Mold Area		○
Operator side platform		○
Platform for Mold area		○
Interface (Electrical wiring + Piping) for Core		○
Ejector Rod 1+4		○
Ejector Rod 1+8		○

● - Standard Feature ○ - Optional Feature

THE M-SERIES

TONNAGE: 450 Metric

Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
2290, 3470, 4880

TECHNICAL SPECIFICATIONS

M-SERIES 450		2290 Frame			3470 Frame			4880 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications										
Injection Capacity, Maximum GPPS	gms	860	1170	1528	1316	1719	2176	1910	2417	2985
Screw Diameter	mm	60	70	80	70	80	90	80	90	100
L/D Ratio	L/D	26.7	22.9	20	25.7	22.5	20	25	22	20
Theoretical Displacement	cm^3	905	1232	1608	1385	1810	2290	2011	2545	3142
Maximum Injection Pressure	bar	2297	1857	1422	2291	1918	1516	2302	1917	1552
Maximum Injection Pressure with Regen	bar	2076	1679	1285	2056	1721	1360	2048	1706	1382
Injection Rate **(STD PKG)- 44.2 kW**	cm^3/sec	336	457	598	339	443	561	350	443	547
Injection Velocity **(STD PKG)- 44.2 kW**	mm/sec	119			88			70		
Injection Rate with Regen **(STD PKG) - 44.2 kW**	cm^3/sec	370	503	657	373	487	617	394	498	615
Injection Velocity with Regen **(STD PKG) - 44.2 kW**	mm/sec	131			97			78		
Injection Rate **(INCR. PKG)- 69.9 kW**	cm^3/sec	504	686	896	508	664	840	525	664	820
Injection Velocity **(INCR. PKG)- 69.9 kW**	mm/sec	178			132			104		
Injection Rate with Regen **(INCR. PKG) - 69.9 kW**	cm^3/sec	554	754	985	566	740	936	590	747	922
Injection Velocity with Regen **(INCR. PKG) - 69.9 kW**	mm/sec	196			147			117		
Injection Rate **(PERF. PKG)- 95.6 kW**	cm^3/sec	672	914	1194	678	885	1120	699	885	1093
Injection Velocity **(PERF. PKG)- 95.6 kW**	mm/sec	238			176			139		
Injection Rate with Regen **(PERF. PKG) - 95.6 kW**	cm^3/sec	739	1005	1313	755	986	1248	786	995	1229
Injection Velocity with Regen **(PERF. PKG) - 95.6 kW**	mm/sec	261			196			156		
Screw Stroke	mm	320			360			400		
Back Pressure Limit	bar	34.5								
Screw Speed **(STD PKG) - 44.2 kW**	rpm	218			174			120		
Screw Speed **(INCR. PKG) - 69.9 kW**	rpm	318	273	239	261	239	212	180		
Screw Speed **(PERF. PKG) - 95.6 kW**	rpm	318	273	239	273	239	212	220	212	191
Torque at Screw @169 bar	Nm	3195			4206			6117		
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 44.2 kW**	gm/sec	50	80	108	61	86	115	59	79	101
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 69.9 kW**	gm/sec	73	100	118	91	118	140	89	119	151
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 95.6 kW**	gm/sec	73	100	118	95	118	140	109	140	160
Number of Pyrometers (Barrel/Nozzle)		5+1						6+1		
Total Heat Capacity	kW	39.6			57.8			53		
Nozzle Holding Force	kN	70								

HIGH TORQUE LOW SPEED SPECIFICATIONS AVAILABLE AS OPTIONAL FEATURE. PLEASE REFER TO THE LAST PAGE FOR DETAILS.

M-SERIES 450		2290 Frame			3470 Frame			4880 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B
Clamp										
Clamping Force	kN	4500								
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	90 / 315								
Clamp Stroke	mm	1450								
Maximum Daylight	mm	1850								
Min/Max Mold Thickness	mm	400 / 900								
Mold Protect Pressure (Std / Spring Mold)	bar	103 / 172								
Platen Size (H × V)	mm	1200 x 1200								
Distance Between Tie Rods (H x V)	mm	920 x 920								
Tie Rod Diameter	mm	140								
Maximum Ejector Stroke	mm	250								
Ejector Force	kN	120								
Maximum Mold Weight	kg	7000								
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	(1004/1004/1506)								
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	(964/964/1445)								
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	(2.99/2.99/2.56)								
Diagonal Tiebar Distance	mm	1359								
Mold Locating Ring	mm	200								
General - STD Package										
Hydraulic System Pressure	bar	210								
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 44.2 kW**	mm	8397 x 2480 x 2764			8397 x 2480 x 2794			8397 x 2480 x 2893		
Machine Weight (with oil) **(STD PKG) - 44.2 kW**	kg	19734			20612			21600		
Total Oil Reservoir Capacity **(STD PKG) - 44.2 kW**	Ltr	908								
Total Connected Load **(STD PKG) - 44.2 kW**	kW	87.4			105.6			100.8		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 69.9 kW**	mm	8397 x 2480 x 2764			8397 x 2480 x 2794			8397 x 2480 x 2893		
Machine Weight (with oil) **(INCR. PKG) - 69.9 kW**	kg	19734			20612			21600		
Total Oil Reservoir Capacity **(INCR. PKG) - 69.9 kW**	Ltr	908								
Total Connected Load **(INCR. PKG) - 69.9 kW**	kW	109.8			127.7			122.9		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 95.6 kW**	mm	8897 x 2480 x 2764			8897 x 2480 x 2794			8897 x 2480 x 2893		
Machine Weight (with oil) **(PERF. PKG) - 95.6 kW**	kg	20298			20993			22019		
Total Oil Reservoir Capacity **(PERF. PKG) - 95.6 kW**	Ltr	1230								
Total Connected Load **(PERF. PKG) - 95.6 kW**	kW	135.2			153.4			148.6		
Core Pull	L	80								
Heat Exchanger Water @ 29° C	L/min	95								

* THEORETICAL CALCULATED DRY CYCLE TIMES

Notes

1) All machine dimensions and specifications are subject to change. Values are for reference only. All general assembly drawings or visuals included herein are for reference only. Please consult the general assembly drawing from a Milacron representative.
2) All specifications reference the Standard performance level (STD) unless otherwise noted.

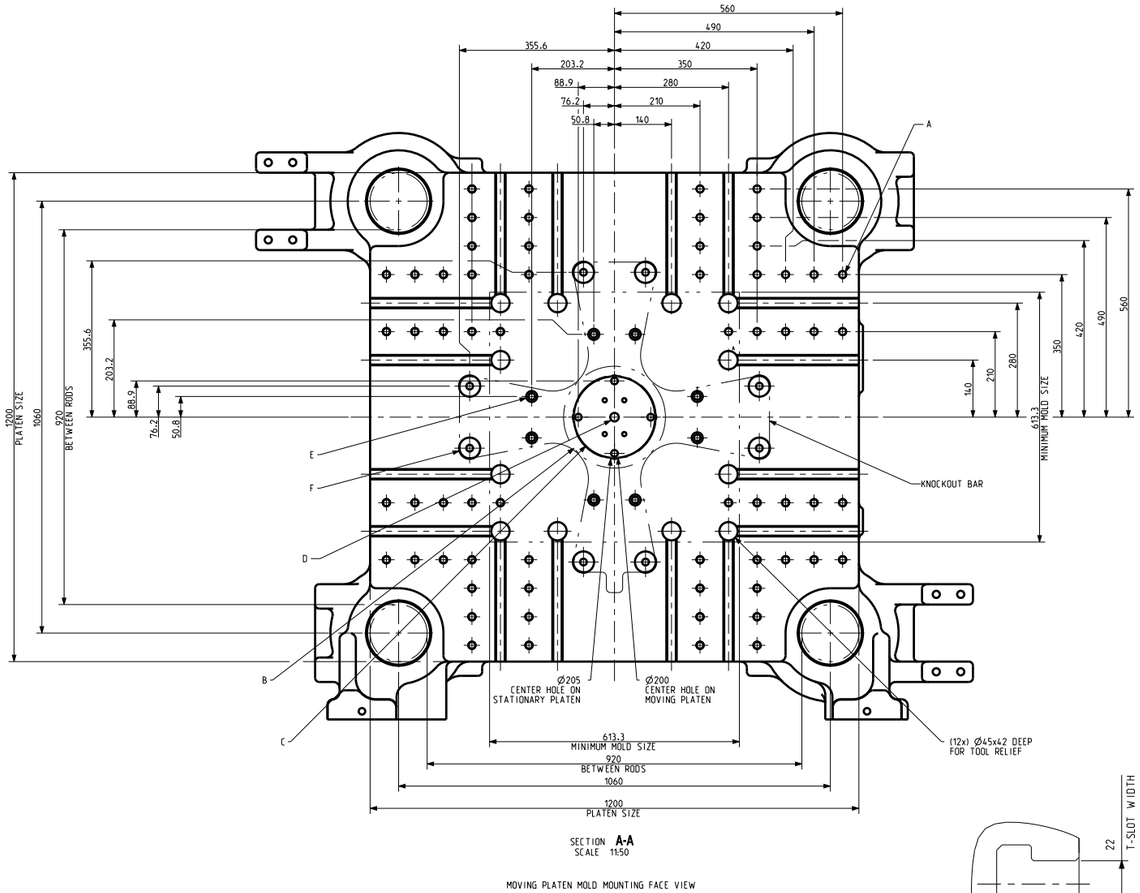
THE M-SERIES

TONNAGE: 450 Metric

Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

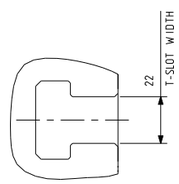
Frame Sizes:
3470, 4880, 6610, 10100

TECHNICAL SPECIFICATIONS



SECTION **A-A**
SCALE 1:50

MOVING PLATEN MOLD MOUNTING FACE VIEW



T-SLOT DETAILS

ALL DIMENSIONS ARE IN MM

A M20x40 DEEP
(64x) HOLES IN MOVING PLATEN
(64x) HOLES IN STATIONARY PLATEN

B Ø250 H8(+0.07)x25 DEEP
W/O DIE LOCATING RING ON STATIONARY PLATEN

Ø200 H8(+0.07)
WITH DIE LOCATING RING ON STATIONARY PLATEN

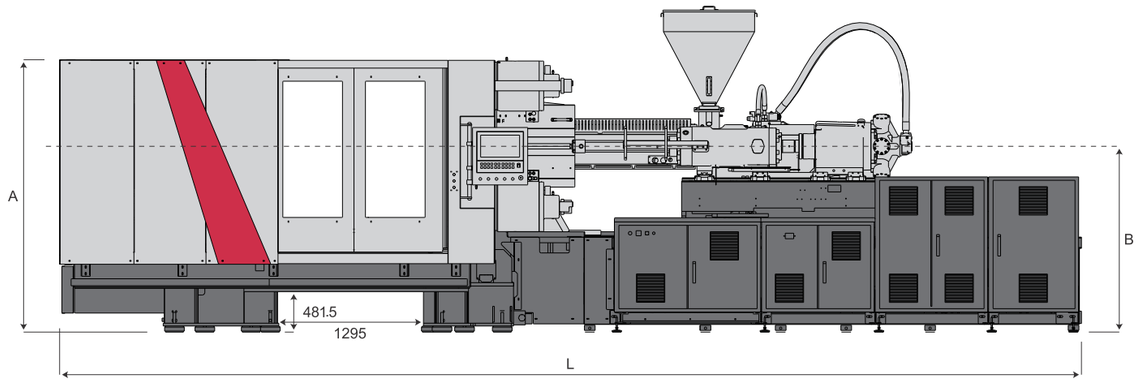
C Ø200 H8(+0.07)x25 DEEP
W/O DIE LOCATING RING ON MOVING PLATEN

D M24x27 DEEP CENTER KNOCKOUT TAPPED HOLE

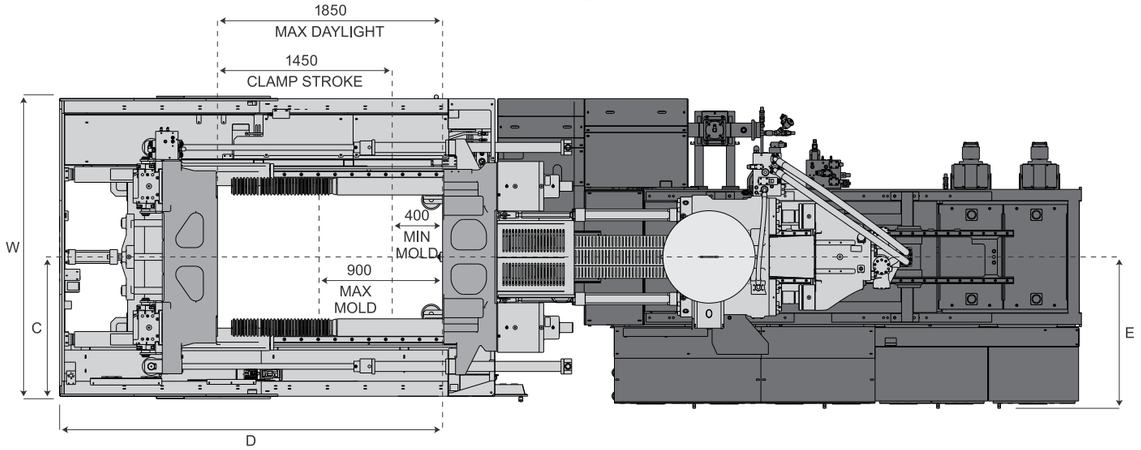
E (12x) Ø27 THRU PLATEN
(12x) Ø16.5 THRU KNOCKOUT BAR
(12x) Ø36x2 COUNTER BORE BACK

F (8x) Ø52 THRU PLATEN
(8x) Ø16.5 THRU KNOCKOUT BAR
(8x) Ø36x2 COUNTER BORE BACK

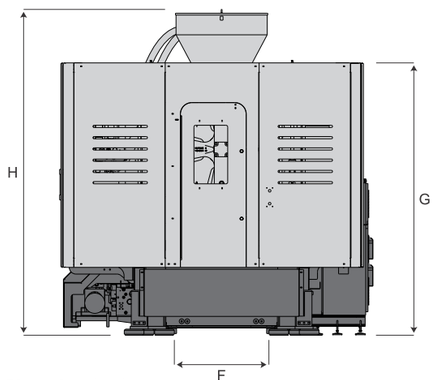
FRONT VIEW



TOP VIEW

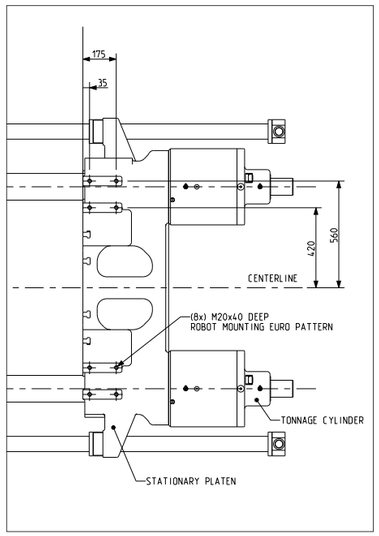


CLAMP END



Dimensions (mm)

	2290 Frame 47.8 / 69.9 / (95.6) kW	3470 Frame 47.8 / 69.9 / (95.6) kW	4880 Frame 47.8 / 69.9 / (95.6) kW
L	8397/(8897)	8397/(8897)	8397/(8897)
W	2480	2480	2480
H	2764	2794	2893
A	2405	2405	2405
B	1650	1650	1650
C	1150	1150	1150
D	3222	3222	3222
E	1344	1344	1344
F	785	785	785
G	2405	2405	2405



THE M-SERIES

TONNAGE: 550 Metric

Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
3470, 4880, 6610, 10100

TECHNICAL SPECIFICATIONS

M-SERIES 550		3470 Frame			4880 Frame			6610 Frame			10100 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications													
Injection Capacity, Maximum GPPS	gms	1316	1719	2176	1910	2417	2985	2659	3283	3972	4178	5056	6529
Screw Diameter	mm	70	80	90	80	90	100	90	100	110	100	110	125
L/D Ratio	L/D	25.7	22.5	20	25	22	20	24.4	22	20	25	22.7	20
Theoretical Displacement	cm^3	1385	1810	2290	2011	2545	3142	2799	3456	4181	4398	5322	6872
Maximum Injection Pressure	bar	2291	1918	1516	2302	1917	1552	2295	1914	1582	2290	1890	1462
Maximum Injection Pressure with Regen	bar	2056	1721	1360	2048	1706	1382	2026	1690	1396	2037	1683	1304
Injection Rate **(STD PKG)- 69.9 kW**	cm^3/sec	508	664	840	525	664	820	539	665	805	496	600	775
Injection Velocity **(STD PKG)- 69.9 kW**	mm/sec	132			104			85			63		
Injection Rate with Regen **(STD PKG) - 69.9 kW**	cm^3/sec	566	740	936	590	747	922	611	754	912	557	674	871
Injection Velocity with Regen **(STD PKG) - 69.9 kW**	mm/sec	147			117			96			71		
Injection Rate **(INCR. PKG)- 95.6 kW**	cm^3/sec	678	885	1120	699	885	1093	719	887	1073	661	800	1033
Injection Velocity **(INCR. PKG)- 95.6 kW**	mm/sec	176			139			113			84		
Injection Rate with Regen **(INCR. PKG) - 95.6 kW**	cm^3/sec	755	986	1248	786	995	1229	814	1005	1216	743	899	1161
Injection Velocity with Regen **(INCR. PKG) - 95.6 kW**	mm/sec	196			156			128			95		
Injection Rate **(PERF. PKG)- 117.7 kW**	cm^3/sec	847	1106	1400	875	1107	1366	898	1109	1342	826	1000	1291
Injection Velocity **(PERF. PKG)- 117.7 kW**	mm/sec	220			174			141			105		
Injection Rate with Regen **(PERF. PKG) - 117.7 kW**	cm^3/sec	944	1233	1560	983	1244	1536	1017	1256	1520	929	1124	1451
Injection Velocity with Regen **(PERF. PKG) - 117.7 kW**	mm/sec	245			196			160			118		
Screw Stroke	mm	360			400			440			560		
Back Pressure Limit	bar	34.5											
Screw Speed **(STD PKG) - 69.9 kW**	rpm	248	239	212	171			124			124		
Screw Speed **(INCR. PKG) - 95.6 kW**	rpm	273	239	212	220	212	191	165			165	165	154
Screw Speed **(PERF. PKG) - 117.7 kW**	rpm	273	239	212	220	212	191	207	191	175	191	174	154
Torque at Screw @169 bar	Nm	4428			6439			8856			8856		
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 69.9 kW**	gm/sec	87	118	140	84	113	143	82	104	133	104	133	176
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 95.6 kW**	gm/sec	95	118	140	109	140	160	109	139	177	139	177	218
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 117.7 kW**	gm/sec	95	118	140	109	140	160	137	160	186	160	185	218
Number of Pyrometers (Barrel/Nozzle)		5+1			6+1								
Total Heat Capacity	kW	57.8			53			60.4			64.5		
Nozzle Holding Force	kN	70											

HIGH TORQUE LOW SPEED SPECIFICATIONS AVAILABLE AS OPTIONAL FEATURE. PLEASE REFER TO THE LAST PAGE FOR DETAILS.

M-SERIES 550		3470 Frame			4880 Frame			6610 Frame			10100 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp													
Clamping Force	kN	5500											
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	110 / 385											
Clamp Stroke	mm	1600											
Maximum Daylight	mm	2000											
Min/Max Mold Thickness	mm	400 / 1000											
Mold Protect Pressure (Std / Spring Mold)	bar	103 / 172											
Platen Size (H × V)	mm	1410 x 1230											
Distance Between Tie Rods (H x V)	mm	1100 x 920											
Tie Rod Diameter	mm	155											
Maximum Ejector Stroke	mm	250											
Ejector Force	kN	120											
Maximum Mold Weight	kg	9500											
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	(885 / 885 / 1480)											
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	(850 / 850 / 1425)											
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	(3.53 / 3.53 / 2.82)											
Diagonal Tiebar Distance	mm	1423											
Mold Locating Ring	mm	200											
General - STD Package													
Hydraulic System Pressure	bar	210											
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 69.9 kW**	mm	9080 x 2790 x 2900			9080 x 2790 x 2900			9080 x 2790 x 2900			9690 x 2790 x 3100		
Machine Weight (with oil) **(STD PKG) - 69.9 kW**	kg	23761			24787			25639			27816		
Total Oil Reservoir Capacity **(STD PKG) - 69.9 kW**	Ltr	1200											
Total Connected Load **(STD PKG) - 69.9 kW**	kW	127.7			122.9			130.3			134.4		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 95.6 kW**	mm	9080 x 2790 x 2900			9080 x 2790 x 2900			9080 x 2790 x 2900			9690 x 2790 x 3100		
Machine Weight (with oil) **(INCR. PKG) - 95.6 kW**	kg	23761			24787			25639			27816		
Total Oil Reservoir Capacity **(INCR. PKG) - 95.6 kW**	Ltr	1200											
Total Connected Load **(INCR. PKG) - 95.6 kW**	kW	153.4			148.6			156			160.1		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 117.7 kW**	mm	9915 x 2790 x 2900			9915 x 2790 x 2900			9915 x 2790 x 2900			9915 x 2790 x 3100		
Machine Weight (with oil) **(PERF. PKG) - 117.7 kW**	kg	24261			25937			26394			27969		
Total Oil Reservoir Capacity **(PERF. PKG) - 117.7 kW**	Ltr	1500											
Total Connected Load **(PERF. PKG) - 117.7 kW**	kW	175.5			170.7			178.1			182.2		
Core Pull	L	80											
Heat Exchanger Water @ 29° C	L/min	95											

* THEORETICAL CALCULATED DRY CYCLE TIMES

Notes

1) All machine dimensions and specifications are subject to change. Values are for reference only. All general assembly drawings or visuals included herein are for reference only. Please consult the general assembly drawing from a Milacron representative.
2) All specifications reference the Standard performance level (STD) unless otherwise noted.

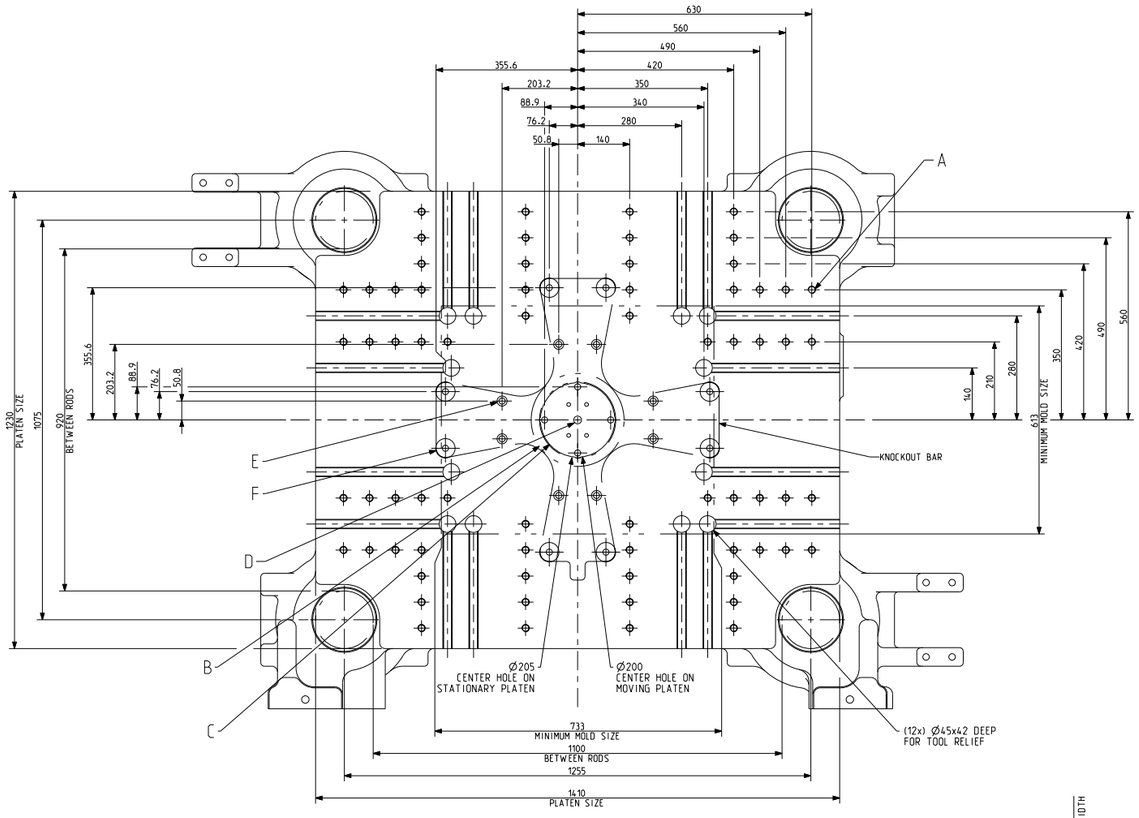
THE M-SERIES

TONNAGE: 550 Metric

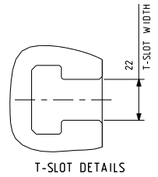
Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
3470, 4880, 6610, 10100

TECHNICAL SPECIFICATIONS



MOVING PLATEN MOLD MOUNTING FACE VIEW



T-SLOT DETAILS

ALL DIMENSIONS ARE IN MM

A M20x40 DEEP
(68x) HOLES IN MOVING PLATEN
(68x) HOLES IN STATIONARY PLATEN

B Ø250 H8(+0.07)x25 DEEP
W/O DIE LOCATING RING ON STATIONARY PLATEN

Ø200 H8(+0.07)
WITH DIE LOCATING RING ON STATIONARY PLATEN

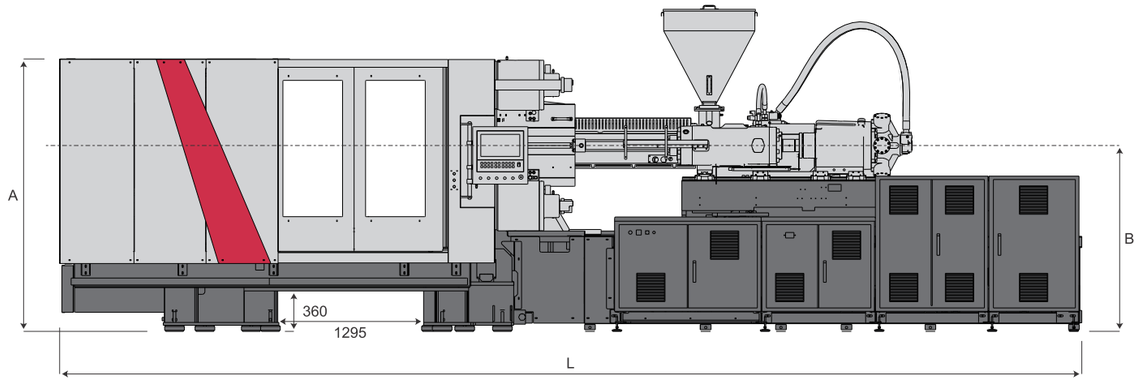
C Ø200 H8(+0.07)x25 DEEP
W/O DIE LOCATING RING ON MOVING PLATEN

D M24x27 DEEP CENTER KNOCKOUT TAPPED HOLE

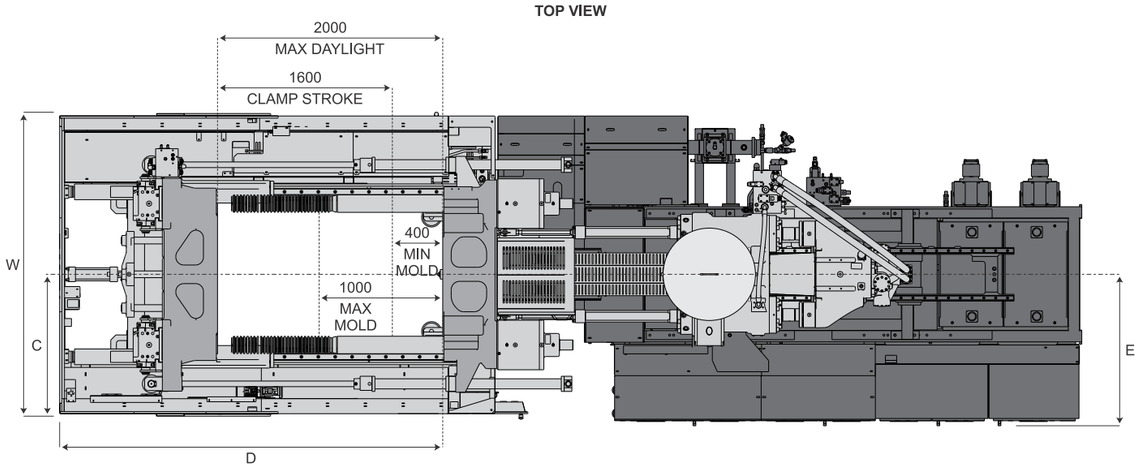
E (12x) Ø27 THRU PLATEN
(12x) Ø16.5 THRU KNOCKOUT BAR
(12x) Ø36x2 COUNTER BORE BACK

F (8x) Ø52 THRU PLATEN
(8x) Ø16.5 THRU KNOCKOUT BAR
(8x) Ø36x2 COUNTER BORE BACK

FRONT VIEW



TOP VIEW



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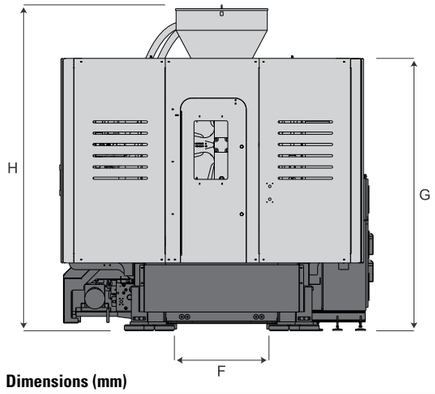
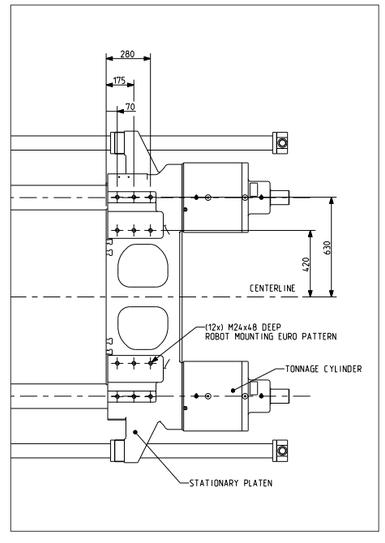


Dimensions (mm)

	3470 Frame 69.9 / 95.6 / (117.7) kW	4880 Frame 69.9 / 95.6 / (117.7) kW	6610 Frame 69.9 / 95.6 / (117.7) kW	10100 Frame 69.9 / 95.6 / (117.7)
L	9077/(9915)	9077/(9915)	9077/(9915)	9690/(9915)
W	2784	2784	2784	2784
H	2787	2894	2900	3100
A	2419	2419	2419	2419
B	1650	1650	1650	1650
C	1260	1260	1260	1260
D	3402	3402	3402	3402
E	1345	1345	1345	1345
F	945	945	945	945
G	2419	2419	2419	2419



THE M-SERIES

TONNAGE: 650 Metric

Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
3470, 4880, 6610, 10100

TECHNICAL SPECIFICATIONS

M-SERIES 650		3470 Frame			4880 Frame			6610 Frame			10100 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications													
Injection Capacity, Maximum GPPS	gms	1316	1719	2176	1910	2417	2985	2799	3283	3972	4178	5056	6529
Screw Diameter	mm	70	80	90	80	90	100	90	100	110	100	110	125
L/D Ratio	L/D	25.7	22.5	20	25	22	20	24.4	22	20	25	22.7	20
Theoretical Displacement	cm^3	1385	1810	2290	2011	2545	3142	2659	3456	4181	4398	5322	6872
Maximum Injection Pressure	bar	2291	1918	1516	2302	1917	1552	2295	1914	1582	2290	1890	1462
Maximum Injection Pressure with Regen	bar	2056	1721	1360	2048	1706	1382	2026	1690	1396	2037	1683	1304
Injection Rate **(STD PKG)- 69.9 kW**	cm^3/sec	508	664	840	525	664	820	539	665	805	496	600	775
Injection Velocity **(STD PKG)- 69.9 kW**	mm/sec	132			104			85			63		
Injection Rate with Regen **(STD PKG) - 69.9 kW**	cm^3/sec	566	740	936	590	747	922	611	754	912	557	674	871
Injection Velocity with Regen **(STD PKG) - 69.9 kW**	mm/sec	147			117			96			71		
Injection Rate **(INCR. PKG)- 95.6 kW**	cm^3/sec	678	885	1120	699	885	1093	719	887	1073	661	800	1033
Injection Velocity **(INCR. PKG)- 95.6 kW**	mm/sec	176			139			113			84		
Injection Rate with Regen **(INCR. PKG) - 95.6 kW**	cm^3/sec	755	986	1248	786	995	1229	814	1005	1216	743	899	1161
Injection Velocity with Regen **(INCR. PKG) - 95.6 kW**	mm/sec	196			156			128			95		
Injection Rate **(PERF. PKG)- 117.7 kW**	cm^3/sec	847	1106	1400	875	1107	1366	898	1109	1342	826	1000	1291
Injection Velocity **(PERF. PKG)- 117.7 kW**	mm/sec	220			174			141			105		
Injection Rate with Regen **(PERF. PKG) - 117.7 kW**	cm^3/sec	944	1233	1560	983	1244	1536	1017	1256	1520	929	1124	1451
Injection Velocity with Regen **(PERF. PKG) - 117.7 kW**	mm/sec	245			196			160			118		
Screw Stroke	mm	360			400			440			560		
Back Pressure Limit	bar	34.5											
Screw Speed **(STD PKG) - 69.9 kW**	rpm	248	239	212	171			124			124		
Screw Speed **(INCR. PKG) - 95.6 kW**	rpm	273	239	212	220	212	191	165			165	165	154
Screw Speed **(PERF. PKG) - 117.7 kW**	rpm	273	239	212	220	212	191	207	191	175	191	174	154
Torque at Screw @169 bar	Nm	4428			6439			8856			8856		
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 69.9 kW**	gm/sec	87	118	140	84	113	143	82	104	133	104	133	176
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 95.6 kW**	gm/sec	95	118	140	109	140	160	109	139	177	139	177	218
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 117.7 kW**	gm/sec	95	118	140	109	140	160	137	160	186	160	185	218
Number of Pyrometers (Barrel/Nozzle)		5+1			6+1								
Total Heat Capacity	kW	57.8			53			60.4			64.5		
Nozzle Holding Force	kN	70											

HIGH TORQUE LOW SPEED SPECIFICATIONS AVAILABLE AS OPTIONAL FEATURE. PLEASE REFER TO THE LAST PAGE FOR DETAILS.

M-SERIES 650		3470 Frame			4880 Frame			6610 Frame			10100 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp													
Clamping Force	kN	6500											
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	130 / 455											
Clamp Stroke	mm	1600											
Maximum Daylight	mm	2050											
Min/Max Mold Thickness	mm	450 / 1100											
Mold Protect Pressure (Std / Spring Mold)	bar	103 / 172											
Platen Size (H × V)	mm	1490 x 1340											
Distance Between Tie Rods (H x V)	mm	1150 x 1000											
Tie Rod Diameter	mm	170											
Maximum Ejector Stroke	mm	250											
Ejector Force	kN	120											
Maximum Mold Weight	kg	12000											
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	(850 / 850 / 1485)											
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	(850 / 850 / 1425)											
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	(4.25 / 4.25 / 3.10)											
Diagonal Tiebar Distance	mm	1594											
Mold Locating Ring	mm	250											
General - STD Package													
Hydraulic System Pressure	bar	210											
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 69.9 kW**	mm	9160 x 2900 x 2900			9160 x 2900 x 2900			9160 x 2900 x 2900			9770 x 2900 x 3100		
Machine Weight (with oil) **(STD PKG) - 69.9 kW**	kg	26331			27357			28209			30386		
Total Oil Reservoir Capacity **(STD PKG) - 69.9 kW**	Ltr	1200											
Total Connected Load **(STD PKG) - 69.9 kW**	kW	127.7			122.9			130.3			134.4		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 95.6 kW**	mm	9160 x 2900 x 2900			9160 x 2900 x 2900			9160 x 2900 x 2900			9770 x 2900 x 3100		
Machine Weight (with oil) **(INCR. PKG) - 95.6 kW**	kg	26331			27357			28209			30386		
Total Oil Reservoir Capacity **(INCR. PKG) - 95.6 kW**	Ltr	1200											
Total Connected Load **(INCR. PKG) - 95.6 kW**	kW	153.4			148.6			156			160.1		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 117.7 kW**	mm	9995 x 2900 x 2900			9995 x 2900 x 2900			9995 x 2900 x 2900			10000 x 2900 x 3100		
Machine Weight (with oil) **(PERF. PKG) - 117.7 kW**	kg	26831			28507			28964			30539		
Total Oil Reservoir Capacity **(PERF. PKG) - 117.7 kW**	Ltr	1500											
Total Connected Load **(PERF. PKG) - 117.7 kW**	kW	175.5			170.7			178.1			182.2		
Core Pull	L	80											
Heat Exchanger Water @ 29° C	L/min	95											

* THEORETICAL CALCULATED DRY CYCLE TIMES

Notes

1) All machine dimensions and specifications are subject to change. Values are for reference only. All general assembly drawings or visuals included herein are for reference only. Please consult the general assembly drawing from a Milacron representative.
2) All specifications reference the Standard performance level (STD) unless otherwise noted.

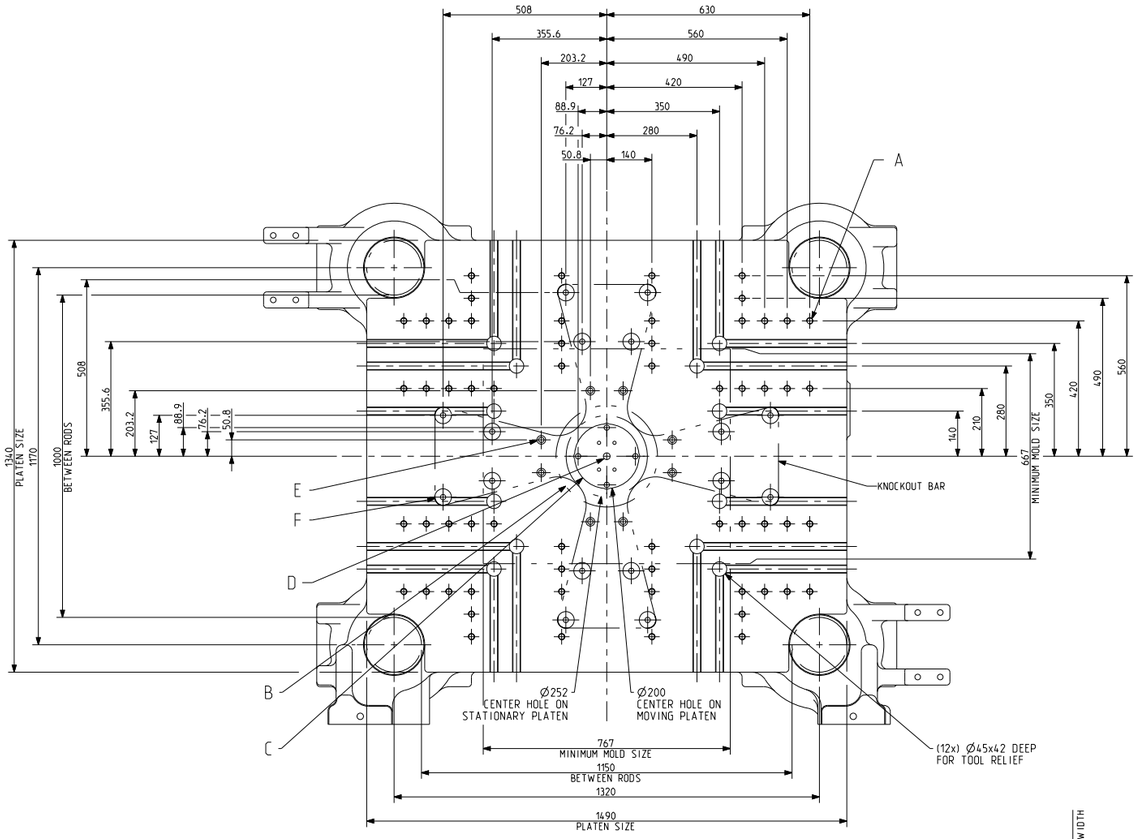
THE M-SERIES

TONNAGE: 650 Metric

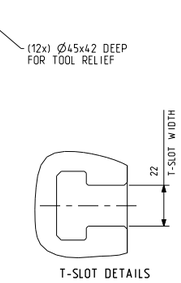
Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
3470, 4880, 6610, 10100

TECHNICAL SPECIFICATIONS



MOVING PLATEN MOLD MOUNTING FACE VIEW



T-SLOT DETAILS

ALL DIMENSIONS ARE IN MM

A M20x40 DEEP
(60x) HOLES IN MOVING PLATEN
(64x) HOLES IN STATIONARY PLATEN

B Ø315 H8(+0.08)x25 DEEP
W/O DIE LOCATING RING ON STATIONARY PLATEN

Ø250 H8(+0.07)
WITH DIE LOCATING RING ON STATIONARY PLATEN

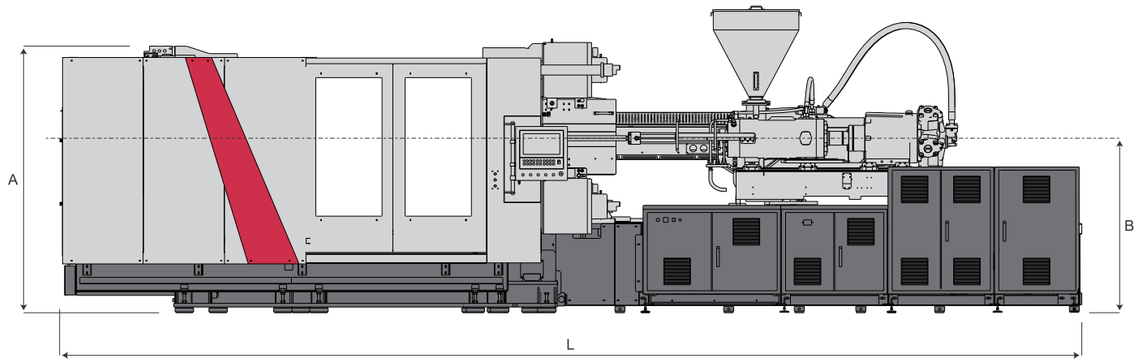
C Ø200 H8(+0.07)x25 DEEP
W/O DIE LOCATING RING ON MOVING PLATEN

D M24x27 DEEP CENTER KNOCKOUT TAPPED HOLE

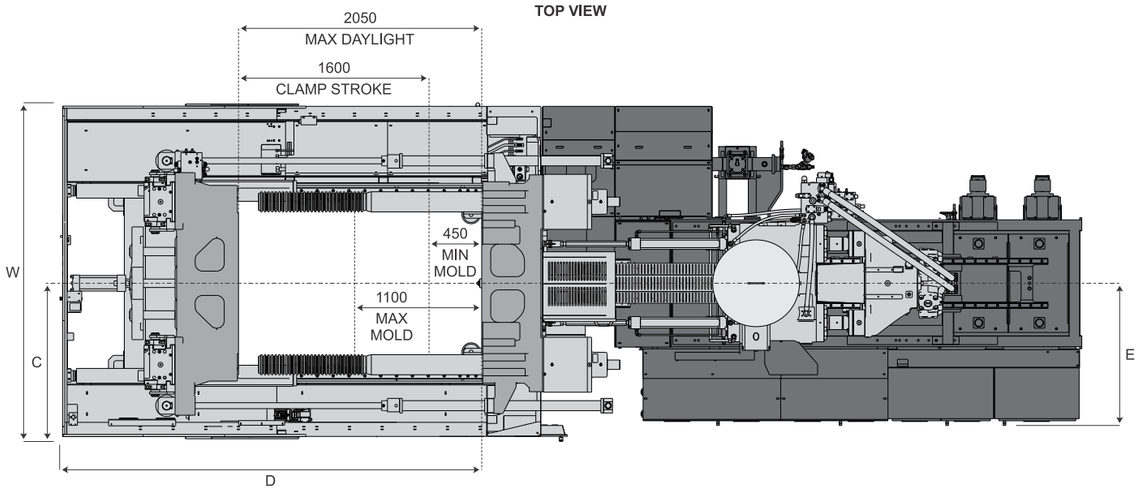
E (12x) Ø27 THRU PLATEN
(12x) Ø16.5 THRU KNOCKOUT BAR
(12x) Ø36x2 COUNTER BORE BACK

F (16x) Ø52 THRU PLATEN
(16x) Ø16.5 THRU KNOCKOUT BAR
(16x) Ø36x2 COUNTER BORE BACK

FRONT VIEW



TOP VIEW



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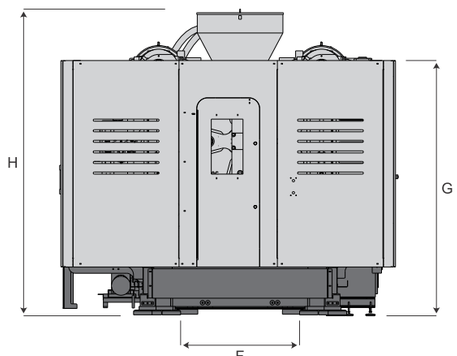
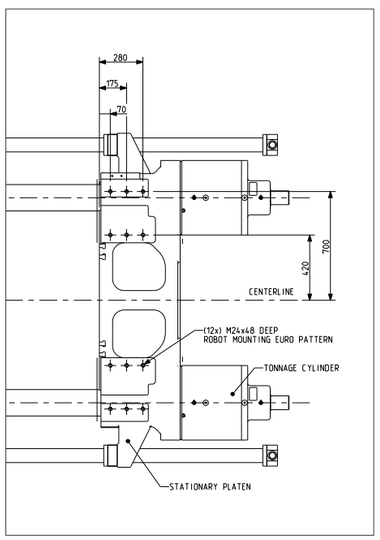


Dimensions (mm)

	3470 Frame 69.9 / 95.6 / (117.7) kW	4880 Frame 69.9 / 95.6 / (117.7) kW	6610 Frame 69.9 / 95.6 / (117.7) kW	10100 Frame 69.9 / 95.6 / (117.7) kW
L	9157/(9995)	9157/(9995)	9157/(9995)	9770/(9995)
W	2900	2900	2900	2900
H	2787	2894	2900	3100
A	2464	2464	2464	2464
B	1650	1650	1650	1650
C	1277	1277	1277	1277
D	3482	3482	3482	3482
E	1345	1345	1345	1345
F	1010	1010	1010	1010
G	2464	2464	2464	2464



THE M-SERIES

TONNAGE: 800 Metric

Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
4880, 6610, 10100, 13500

TECHNICAL SPECIFICATIONS

M-SERIES 800		4880 Frame			6610 Frame			10100 Frame			13500 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications													
Injection Capacity, Maximum GPPS	gms	1910	2417	2985	2659	3283	3972	4178	5056	6529	5507	7112	8295
Screw Diameter	mm	80	90	100	90	100	110	100	110	125	110	125	135
L/D Ratio	L/D	25	22	20	25	22	20	25	22.7	20	24.5	21.6	20
Theoretical Displacement	cm^3	2011	2545	3142	2799	3456	4181	4398	5322	6872	5797	7486	8731
Maximum Injection Pressure	bar	2302	1917	1552	2295	1914	1582	2290	1890	1462	2106	1798	1542
Maximum Injection Pressure with Regen	bar	2048	1706	1382	2026	1690	1396	2037	1683	1304	1848	1578	1353
Injection Rate **(STD PKG)- 69.9 kW**	cm^3/sec	525	664	820	539	665	805	496	600	775	539	696	812
Injection Velocity **(STD PKG)- 69.9 kW**	mm/sec	104			85			63			57		
Injection Rate with Regen **(STD PKG) - 69.9 kW**	cm^3/sec	590	747	922	611	754	912	557	674	871	614	793	925
Injection Velocity with Regen **(STD PKG) - 69.9 kW**	mm/sec	117			96			71			65		
Injection Rate **(INCR. PKG)- 95.6 kW**	cm^3/sec	699	885	1093	719	887	1073	661	800	1033	719	928	1082
Injection Velocity **(INCR. PKG)- 95.6 kW**	mm/sec	139			113			84			76		
Injection Rate with Regen **(INCR. PKG) - 95.6 kW**	cm^3/sec	786	995	1229	814	1005	1216	743	899	1161	819	1057	1233
Injection Velocity with Regen **(INCR. PKG) - 95.6 kW**	mm/sec	156			128			95			86		
Injection Rate **(PERF. PKG)- 117.7 kW**	cm^3/sec	875	1107	1366	898	1109	1342	826	1000	1291	898	1160	1353
Injection Velocity **(PERF. PKG)- 117.7 kW**	mm/sec	174			141			105			95		
Injection Rate with Regen **(PERF. PKG) - 117.7 kW**	cm^3/sec	983	1244	1536	1017	1256	1520	929	1124	1451	1024	1322	1542
Injection Velocity with Regen **(PERF. PKG) - 117.7 kW**	mm/sec	196			160			118			108		
Screw Stroke	mm	400			440			560			610		
Back Pressure Limit	bar	34.5											
Screw Speed **(STD PKG) - 69.9 kW**	rpm	171			124			124			95		
Screw Speed **(INCR. PKG) - 95.6 kW**	rpm	220	212	191	165			165	165	154	126		
Screw Speed **(PERF. PKG) - 117.7 kW**	rpm	220	212	191	207	191	175	191	174	154	158	153	142
Torque at Screw @169 bar	Nm	6439			8856			8856			11103		
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 69.9 kW**	gm/sec	84	113	143	82	104	133	104	133	176	101	134	160
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 95.6 kW**	gm/sec	109	140	160	109	139	177	139	177	218	135	179	213
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 117.7 kW**	gm/sec	109	140	160	137	160	186	160	185	218	168	217	240
Number of Pyrometers (Barrel/Nozzle)		6+1											
Total Heat Capacity	kW	53			60.4			64.5			65		
Nozzle Holding Force	kN	70											

HIGH TORQUE LOW SPEED SPECIFICATIONS AVAILABLE AS OPTIONAL FEATURE. PLEASE REFER TO THE LAST PAGE FOR DETAILS.

M-SERIES 800		4880 Frame			6610 Frame			10100 Frame			13500 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp													
Clamping Force	kN	8000											
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	160 / 560											
Clamp Stroke	mm	1800											
Maximum Daylight	mm	2300											
Min/Max Mold Thickness	mm	500 / 1200											
Mold Protect Pressure (Std / Spring Mold)	bar	103 / 172											
Platen Size (H × V)	mm	1730 x 1480											
Distance Between Tie Rods (H x V)	mm	1350 x 1100											
Tie Rod Diameter	mm	190											
Maximum Ejector Stroke	mm	300											
Ejector Force	kN	180											
Maximum Mold Weight	kg	17000											
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	(900 / 900 / 1420)											
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	(935 / 935 / 1480)											
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	(4.60 / 4.60 / 3.60)											
Diagonal Tiebar Distance	mm	1819											
Mold Locating Ring	mm	250											
General - STD Package													
Hydraulic System Pressure	bar	210											
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 69.9 kW**	mm	9640 x 3205 x 2900			9640 x 3205 x 2900			10250 x 3205 x 3100			10680 x 3205 x 3140		
Machine Weight (with oil) **(STD PKG) - 69.9 kW**	kg	32647			33761			35676			37854		
Total Oil Reservoir Capacity **(STD PKG) - 69.9 kW**	Ltr	1200											
Total Connected Load **(STD PKG) - 69.9 kW**	kW	122.9			130.3			134.4			134.9		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 95.6 kW**	mm	9640 x 3205 x 2900			9640 x 3205 x 2900			10250 x 3205 x 3100			10680 x 3205 x 3140		
Machine Weight (with oil) **(INCR. PKG) - 95.6 kW**	kg	32647			33761			35676			37854		
Total Oil Reservoir Capacity **(INCR. PKG) - 95.6 kW**	Ltr	1200											
Total Connected Load **(INCR. PKG) - 95.6 kW**	kW	148.6			156			160.1			160.6		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 117.7 kW**	mm	10475 x 3205 x 2900			10475 x 3205 x 2900			10475 x 3205 x 3100			11285 x 3205 x 3140		
Machine Weight (with oil) **(PERF. PKG) - 117.7 kW**	kg	33797			34254			35829			38723		
Total Oil Reservoir Capacity **(PERF. PKG) - 117.7 kW**	Ltr	1500											
Total Connected Load **(PERF. PKG) - 117.7 kW**	kW	170.7			178.1			182.2			182.7		
Core Pull	L	80											
Heat Exchanger Water @ 29° C	L/min	95											

* THEORETICAL CALCULATED DRY CYCLE TIMES

Notes

1) All machine dimensions and specifications are subject to change. Values are for reference only. All general assembly drawings or visuals included herein are for reference only. Please consult the general assembly drawing from a Milacron representative.
2) All specifications reference the Standard performance level (STD) unless otherwise noted.

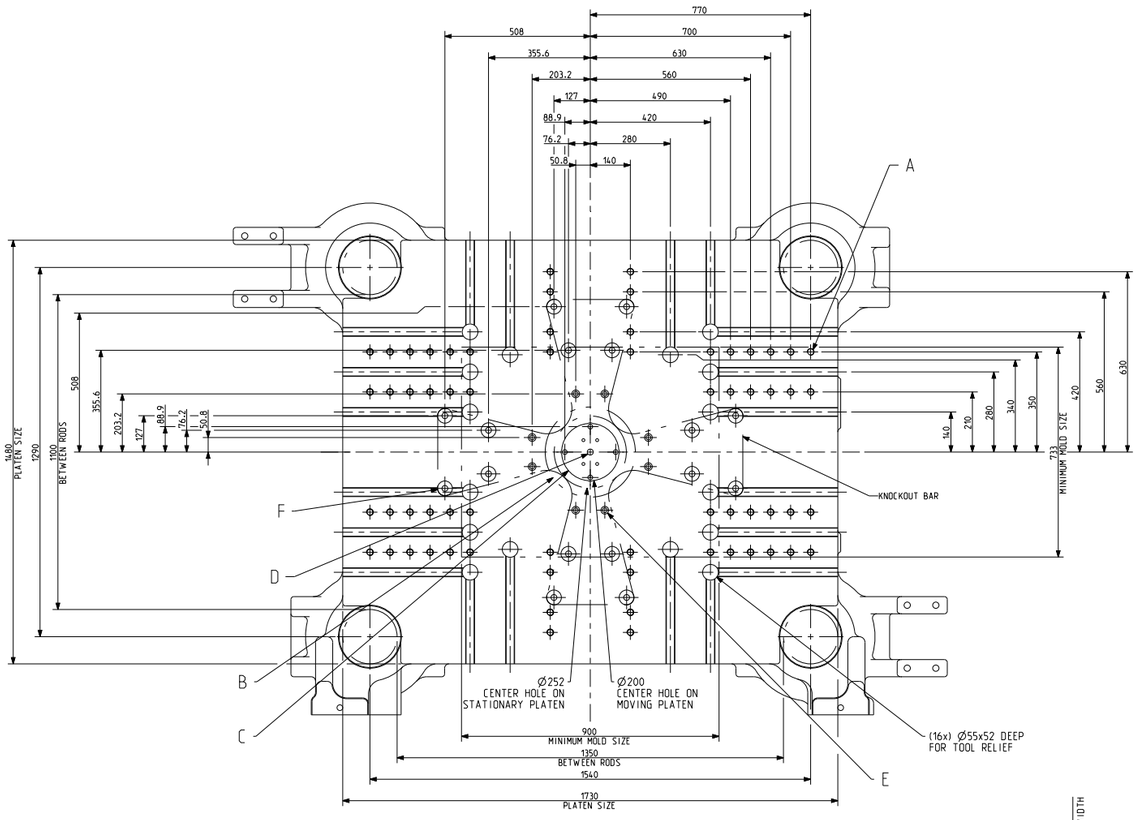
THE M-SERIES

TONNAGE: 800 Metric

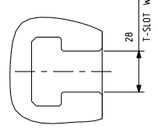
Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
4880, 6610, 10100, 13500

TECHNICAL SPECIFICATIONS



MOVING PLATEN MOLD MOUNTING FACE VIEW



T-SLOT DETAILS

ALL DIMENSIONS ARE IN MM

A M24x48 DEEP
(64x) HOLES IN MOVING PLATEN
(68x) HOLES IN STATIONARY PLATEN

B Ø315 H8(+0.08)x25 DEEP
W/O DIE LOCATING RING ON STATIONARY PLATEN

Ø250 H8(+0.07)
WITH DIE LOCATING RING ON STATIONARY PLATEN

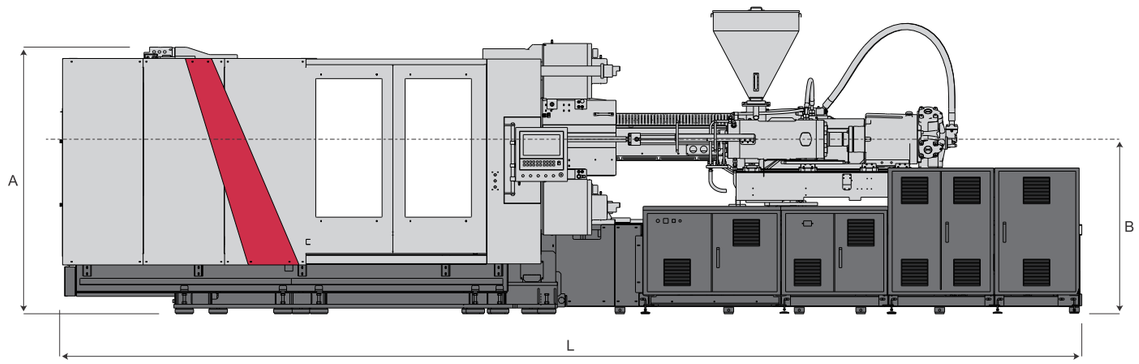
C Ø200 H8(+0.07)x25 DEEP
W/O DIE LOCATING RING ON MOVING PLATEN

D M24x25 DEEP CENTER KNOCKOUT TAPPED HOLE

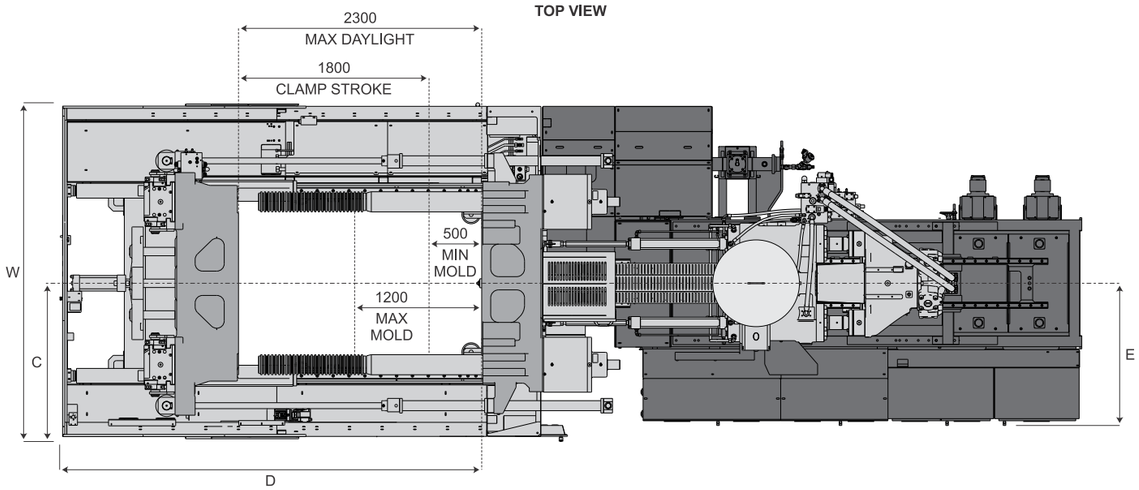
E (12x) Ø27 THRU PLATEN
(12x) Ø16.5 THRU KNOCKOUT BAR
(12x) Ø36x3 COUNTER BORE BACK

F (16x) Ø52 THRU PLATEN
(16x) Ø20.5 THRU KNOCKOUT BAR
(16x) Ø44.5x3 COUNTER BORE BACK

FRONT VIEW



TOP VIEW



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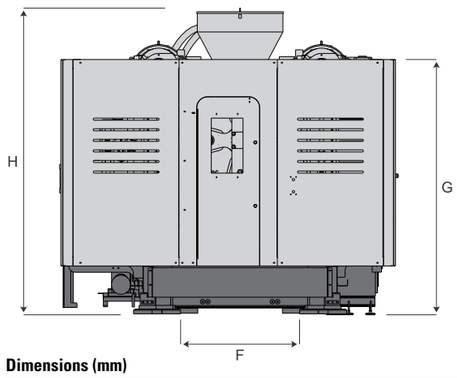
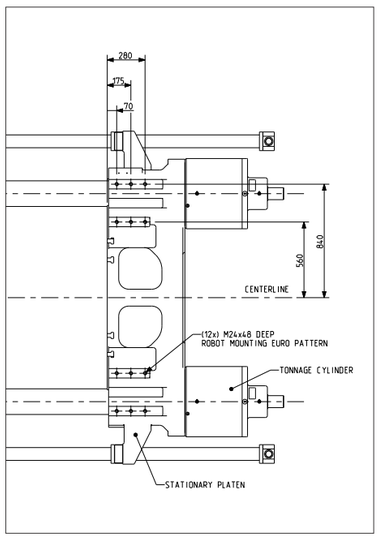


Dimensions (mm)

	4880 Frame 69.9 / 95.6 / (117.7) kW	6610 Frame 69.9 / 95.6 / (117.7) kW	10100 Frame 69.9 / 95.6 / (117.7) kW	13500 Frame 69.9 / 95.6 / (117.7) kW
L	9639/(10475)	9639/(10475)	10249/(10475)	10673/(11285)
W	3203	3203	3203	3203
H	2893	2900	3100	3135
A	2521	2521	2521	2521
B	1650	1650	1650	1650
C	1470	1470	1470	1470
D	3963	3963	3963	3963
E	1345	1345	1345	1345
F	1230	1230	1230	1230
G	2415	2415	2415	2415



THE M-SERIES

TONNAGE: 950 Metric

Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
6610, 10100, 13500, 16000

TECHNICAL SPECIFICATIONS

M-SERIES 950		6610 Frame			10100 Frame			13500 Frame			16000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications													
Injection Capacity, Maximum GPPS	gms	2659	3283	3972	4178	5056	6529	5507	7112	8295	6320	8161	10237
Screw Diameter	mm	90	100	110	100	110	125	110	125	135	110	125	140
L/D Ratio	L/D	24.4	22	20	25	22.7	20	24.5	21.6	20	25.5	22.4	20
Theoretical Displacement	cm^3	2799	3456	4181	4398	5322	6872	5797	7486	8731	6652	8590	10776
Maximum Injection Pressure	bar	2295	1914	1582	2290	1890	1462	2106	1798	1542	2345	1890	1510
Maximum Injection Pressure with Regen	bar	2026	1690	1396	2037	1683	1304	1848	1578	1353	2103	1694	1350
Injection Rate **(STD PKG)- 95.6 kW**	cm^3/sec	719	887	1073	661	800	1033	719	928	1082	619	799	1002
Injection Velocity **(STD PKG)- 95.6 kW**	mm/sec	113			84			76			65		
Injection Rate with Regen **(STD PKG) - 95.6 kW**	cm^3/sec	814	1005	1216	743	899	1161	819	1057	1233	692	893	1120
Injection Velocity with Regen **(STD PKG) - 95.6 kW**	mm/sec	128			95			86			73		
Injection Rate **(INCR. PKG)- 117.7 kW**	cm^3/sec	898	1109	1342	826	1000	1291	898	1160	1353	774	999	1253
Injection Velocity **(INCR. PKG)- 117.7 kW**	mm/sec	141			105			95			81		
Injection Rate with Regen **(INCR. PKG) - 117.7 kW**	cm^3/sec	1017	1256	1520	929	1124	1451	1024	1322	1542	865	1117	1401
Injection Velocity with Regen **(INCR. PKG) - 117.7 kW**	mm/sec	160			118			108			91		
Injection Rate **(PERF. PKG)- 143.4 kW**	cm^3/sec	1078	1331	1610	991	1199	1549	1078	1392	1623	928	1199	1503
Injection Velocity **(PERF. PKG)- 143.4 kW**	mm/sec	169			126			113			98		
Injection Rate with Regen **(PERF. PKG) - 143.4 kW**	cm^3/sec	1221	1507	1823	1114	1348	1741	1228	1586	1850	1038	1340	1681
Injection Velocity with Regen **(PERF. PKG) - 143.4 kW**	mm/sec	192			142			129			109		
Screw Stroke	mm	440			560			610			700		
Back Pressure Limit	bar	34.5											
Screw Speed **(STD PKG) - 95.6 kW**	rpm	165			165	165	154	126			102		
Screw Speed **(INCR. PKG) - 117.7 kW**	rpm	207	191	175	191	174	154	158	153	142	128		
Screw Speed **(PERF. PKG) - 143.4 kW**	rpm	212	191	175	191	174	154	170	153	142	150	150	136
Torque at Screw @169 bar	Nm	8856			8856			11103			13348		
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 95.6 kW**	gm/sec	109	139	177	139	177	218	135	179	213	109	145	189
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 117.7 kW**	gm/sec	137	160	186	160	185	218	168	217	240	136	181	236
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 143.4 kW**	gm/sec	126	160	186	160	185	218	181	217	240	160	213	252
Number of Pyrometers (Barrel/Nozzle)		6+1											
Total Heat Capacity	kW	60.4			64.5			65			65		
Nozzle Holding Force	kN	70											

HIGH TORQUE LOW SPEED SPECIFICATIONS AVAILABLE AS OPTIONAL FEATURE. PLEASE REFER TO THE LAST PAGE FOR DETAILS.

M-SERIES 950		6610 Frame			10100 Frame			13500 Frame			16000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp													
Clamping Force	kN	9500											
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	190 / 665											
Clamp Stroke	mm	1900											
Maximum Daylight	mm	2500											
Min/Max Mold Thickness	mm	600 / 1300											
Mold Protect Pressure (Std / Spring Mold)	bar	103 / 172											
Platen Size (H × V)	mm	1910 x 1530											
Distance Between Tie Rods (H x V)	mm	1500 x 1120											
Tie Rod Diameter	mm	205											
Maximum Ejector Stroke	mm	300											
Ejector Force	kN	180											
Maximum Mold Weight	kg	19500											
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	(900 / 900 / 1465)											
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	(935 / 935 / 1525)											
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	(4.9 / 4.9 / 4.0)											
Diagonal Tiebar Distance	mm	1954											
Mold Locating Ring	mm	250											
General - STD Package													
Hydraulic System Pressure	bar	210											
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 95.6 kW**	mm	9920 x 3415 x 2900			10530 x 3415 x 3100			10950 x 3415 x 3135			11965 x 3415 x 3135		
Machine Weight (with oil) **(STD PKG) - 95.6 kW**	kg	40766			42943			44077			49192		
Total Oil Reservoir Capacity **(STD PKG) - 95.6 kW**	Ltr	1200									1800		
Total Connected Load **(STD PKG) - 95.6 kW**	kW	156			160.1			160.6			160.6		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 117.7 kW**	mm	10755 x 3415 x 2900			11235 x 3415 x 3100			11550 x 3415 x 3135			11965 x 3415 x 3135		
Machine Weight (with oil) **(INCR. PKG) - 117.7 kW**	kg	41521			43096			47507			49547		
Total Oil Reservoir Capacity **(INCR. PKG) - 117.7 kW**	Ltr	1500									1800		
Total Connected Load **(INCR. PKG) - 117.7 kW**	kW	178.1			182.2			182.7			182.7		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 143.4 kW**	mm	11520 x 3415 x 2900			11520 x 3415 x 3100			11520 x 3415 x 3135			11965 x 3415 x 3135		
Machine Weight (with oil) **(PERF. PKG) - 143.4 kW**	kg	43596			45858			47856			49547		
Total Oil Reservoir Capacity **(PERF. PKG) - 143.4 kW**	Ltr	1800											
Total Connected Load **(PERF. PKG) - 143.4 kW**	kW	203.8			207.9			208.4			208.4		
Core Pull	L	80											
Heat Exchanger Water @ 29° C	L/min	95											

* THEORETICAL CALCULATED DRY CYCLE TIMES

Notes

1) All machine dimensions and specifications are subject to change. Values are for reference only. All general assembly drawings or visuals included herein are for reference only. Please consult the general assembly drawing from a Milacron representative.
2) All specifications reference the Standard performance level (STD) unless otherwise noted.

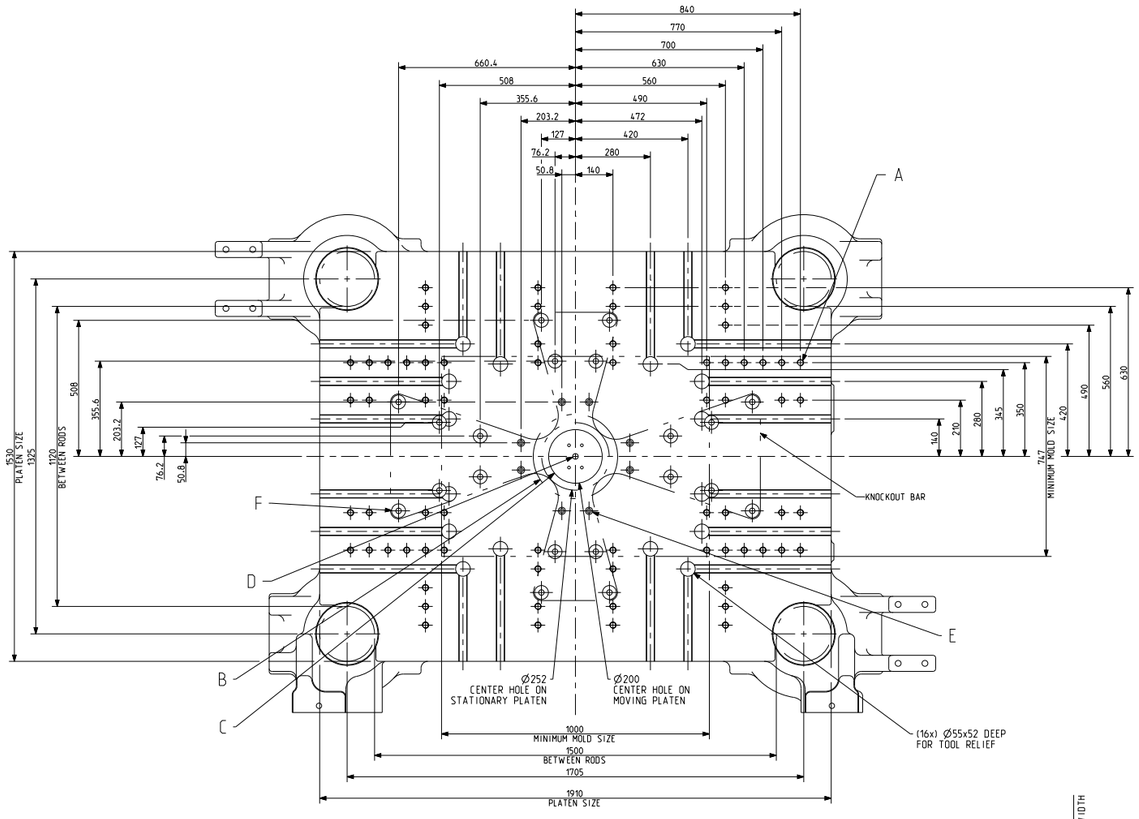
THE M-SERIES

TONNAGE: 950 Metric

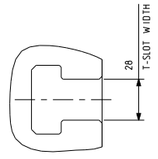
Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
6610, 10100, 13500, 16000

TECHNICAL SPECIFICATIONS



MOVING PLATEN MOLD MOUNTING FACE VIEW



T-SLOT DETAILS

ALL DIMENSIONS ARE IN MM

A M24x48 DEEP
(68x) HOLES IN MOVING PLATEN
(80x) HOLES IN STATIONARY PLATEN

B Ø315 H8(+0.08)x25 DEEP
W/O DIE LOCATING RING ON STATIONARY PLATEN

Ø250 H8(+0.07)
WITH DIE LOCATING RING ON STATIONARY PLATEN

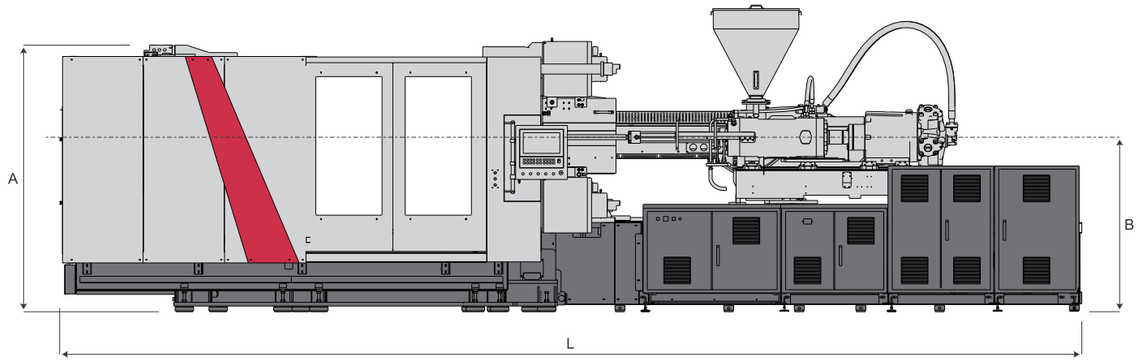
C Ø200 H8(+0.07)x25 DEEP
W/O DIE LOCATING RING ON MOVING PLATEN

D M24x25 DEEP CENTER KNOCKOUT TAPPED HOLE

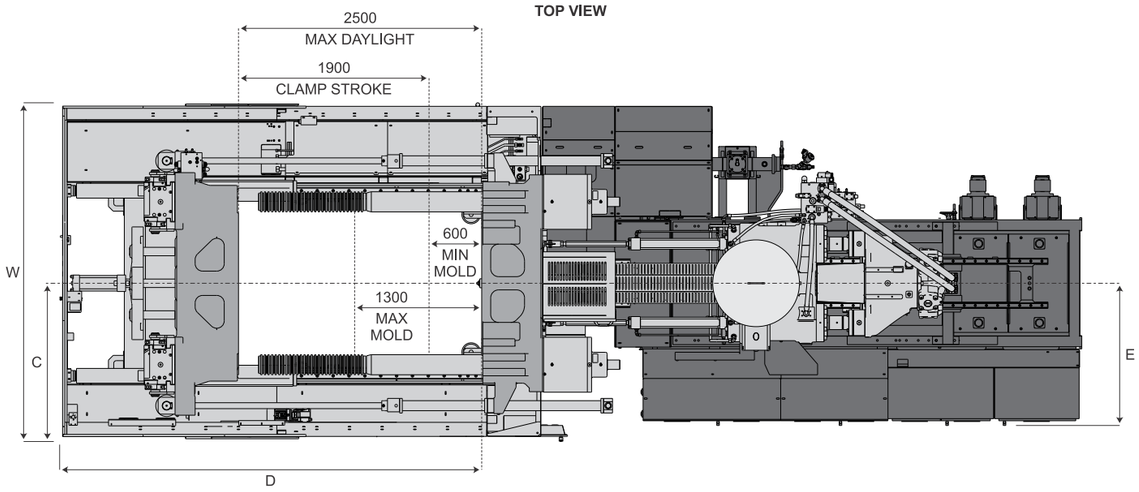
E (8x) Ø27 THRU PLATEN
(8x) Ø16.5 THRU KNOCKOUT BAR
(8x) Ø36x3 COUNTER BORE BACK

F (20x) Ø52 THRU PLATEN
(20x) Ø20.5 THRU KNOCKOUT BAR
(20x) Ø44.5x3 COUNTER BORE BACK

FRONT VIEW



TOP VIEW



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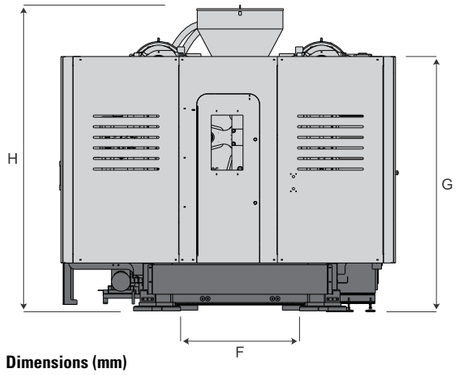
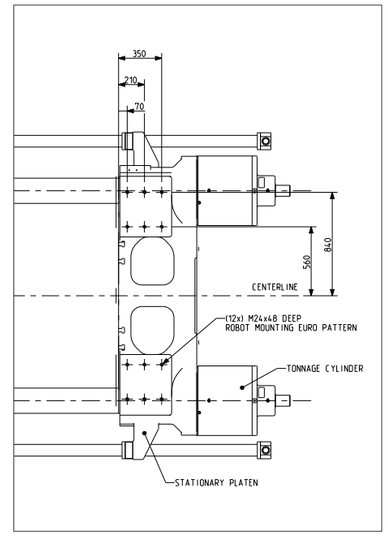


Dimensions (mm)

	6610 Frame 95.6 / 117.7 / (143.4) kW	10100 Frame 95.6 / 117.7 / (143.4) kW	13500 Frame 95.6 / 117.7 / (143.4) kW	16000 Frame 95.6 / 117.7 / 143.4 kW
L	9019 / 10754 / (11520)	10529 / 11232/ (11520)	10953 / 11562 / (11520)	11964
W	3413	3413	3413	3413
H	2826	3105	3135	3135
A	2559	2559	2559	2559
B	1650	1650	1650	1650
C	1580	1580	1580	1580
D	4244	4244	4244	4244
E	1345	1345	1345	1345
F	1395	1395	1395	1395
G	2414	2414	2414	2414



THE M-SERIES

TONNAGE: 1100 Metric

Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
6610, 10100, 13500, 16000

TECHNICAL SPECIFICATIONS

M-SERIES 1100		6610 Frame			10100 Frame			13500 Frame			16000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications													
Injection Capacity, Maximum GPPS	gms	2659	3283	3972	4178	5056	6529	5507	7112	8295	6320	8161	10237
Screw Diameter	mm	90	100	110	100	110	125	110	125	135	110	125	140
L/D Ratio	L/D	24.4	22	20	25	22.7	20	24.5	21.6	20	25.5	22.4	20
Theoretical Displacement	cm^3	2799	3456	4181	4398	5322	6872	5797	7486	8731	6652	8590	10776
Maximum Injection Pressure	bar	2295	1914	1582	2290	1890	1462	2106	1798	1542	2345	1890	1510
Maximum Injection Pressure with Regen	bar	2026	1690	1396	2037	1683	1304	1848	1578	1353	2103	1694	1350
Injection Rate **(STD PKG)- 95.6 kW**	cm^3/sec	719	887	1073	661	800	1033	719	928	1082	619	799	1002
Injection Velocity **(STD PKG)- 95.6 kW**	mm/sec	113			84			76			65		
Injection Rate with Regen **(STD PKG) - 95.6 kW**	cm^3/sec	814	1005	1216	743	899	1161	819	1057	1233	692	893	1120
Injection Velocity with Regen **(STD PKG) - 95.6 kW**	mm/sec	128			95			86			73		
Injection Rate **(INCR. PKG)- 117.7 kW**	cm^3/sec	898	1109	1342	826	1000	1291	898	1160	1353	774	999	1253
Injection Velocity **(INCR. PKG)- 117.7 kW**	mm/sec	141			105			95			81		
Injection Rate with Regen **(INCR. PKG) - 117.7 kW**	cm^3/sec	1017	1256	1520	929	1124	1451	1024	1322	1542	865	1117	1401
Injection Velocity with Regen **(INCR. PKG) - 117.7 kW**	mm/sec	160			118			108			91		
Injection Rate **(PERF. PKG)- 143.4 kW**	cm^3/sec	1078	1331	1610	991	1199	1549	1078	1392	1623	928	1199	1503
Injection Velocity **(PERF. PKG)- 143.4 kW**	mm/sec	169			126			113			98		
Injection Rate with Regen **(PERF. PKG) - 143.4 kW**	cm^3/sec	1221	1507	1823	1114	1348	1741	1228	1586	1850	1038	1340	1681
Injection Velocity with Regen **(PERF. PKG) - 143.4 kW**	mm/sec	192			142			129			109		
Screw Stroke	mm	440			560			610			700		
Back Pressure Limit	bar	34.5											
Screw Speed **(STD PKG) - 95.6 kW**	rpm	165			165	165	154	126			102		
Screw Speed **(INCR. PKG) - 117.7 kW**	rpm	207	191	175	191	174	154	158	153	142	128		
Screw Speed **(PERF. PKG) - 143.4 kW**	rpm	212	191	175	191	174	154	170	153	142	150	150	136
Torque at Screw @169 bar	Nm	7992			7992			10814			13348		
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 95.6 kW**	gm/sec	109	139	177	139	177	218	135	179	213	109	145	189
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 117.7 kW**	gm/sec	137	160	186	160	185	218	168	217	240	136	181	236
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 143.4 kW**	gm/sec	126	160	186	160	185	218	181	217	240	160	213	252
Number of Pyrometers (Barrel/Nozzle)		6+1											
Total Heat Capacity	kW	60.4			64.5			65			65		
Nozzle Holding Force	kN	70											

HIGH TORQUE LOW SPEED SPECIFICATIONS AVAILABLE AS OPTIONAL FEATURE. PLEASE REFER TO THE LAST PAGE FOR DETAILS.

M-SERIES 1100		6610 Frame			10100 Frame			13500 Frame			16000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp													
Clamping Force	kN	11000											
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	220 / 770											
Clamp Stroke	mm	2000											
Maximum Daylight	mm	2600											
Min/Max Mold Thickness	mm	600 / 1400											
Mold Protect Pressure (Std / Spring Mold)	bar	103 / 172											
Platen Size (H × V)	mm	1990 x 1640											
Distance Between Tie Rods (H x V)	mm	1550 x 1200											
Tie Rod Diameter	mm	220											
Maximum Ejector Stroke	mm	300											
Ejector Force	kN	180											
Maximum Mold Weight	kg	23500											
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	(710 / 965 / 1155)											
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	(740 / 1000 / 1205)											
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	(5.95 / 4.60 / 4.21)											
Diagonal Tiebar Distance	mm	2049											
Mold Locating Ring	mm	250											
General - STD Package													
Hydraulic System Pressure	bar	210											
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 95.6 kW**	mm	10100 x 3580 x 2900			10700 x 3580 x 3105			11125 x 3580 x 3135			12135 x 3580 x 3135		
Machine Weight (with oil) **(STD PKG) - 95.6 kW**	kg	45983			48160			49294			54765		
Total Oil Reservoir Capacity **(STD PKG) - 95.6 kW**	Ltr	1200									1800		
Total Connected Load **(STD PKG) - 95.6 kW**	kW	156			160.1			160.6			160.6		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 117.7 kW**	mm	10950 x 3580 x 2900			11410 x 3580 x 3105			11735 x 3580 x 3135			12135 x 3580 x 3135		
Machine Weight (with oil) **(INCR. PKG) - 117.7 kW**	kg	46738			48679			51207			54764		
Total Oil Reservoir Capacity **(INCR. PKG) - 117.7 kW**	Ltr	1500									1800		
Total Connected Load **(INCR. PKG) - 117.7 kW**	kW	178.1			182.2			182.7			182.7		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 143.4 kW**	mm	12135 x 3580 x 2900			12135 x 3580 x 3105			12135 x 3580 x 3135			12135 x 3580 x 3135		
Machine Weight (with oil) **(PERF. PKG) - 143.4 kW**	kg	—			51075			53073			54764		
Total Oil Reservoir Capacity **(PERF. PKG) - 143.4 kW**	Ltr	1800											
Total Connected Load **(PERF. PKG) - 143.4 kW**	kW	203.8			207.9			208.4			208.4		
Core Pull	L	80											
Heat Exchanger Water @ 29° C	L/min	95											

* THEORETICAL CALCULATED DRY CYCLE TIMES

Notes

1) All machine dimensions and specifications are subject to change. Values are for reference only. All general assembly drawings or visuals included herein are for reference only. Please consult the general assembly drawing from a Milacron representative.
2) All specifications reference the Standard performance level (STD) unless otherwise noted.

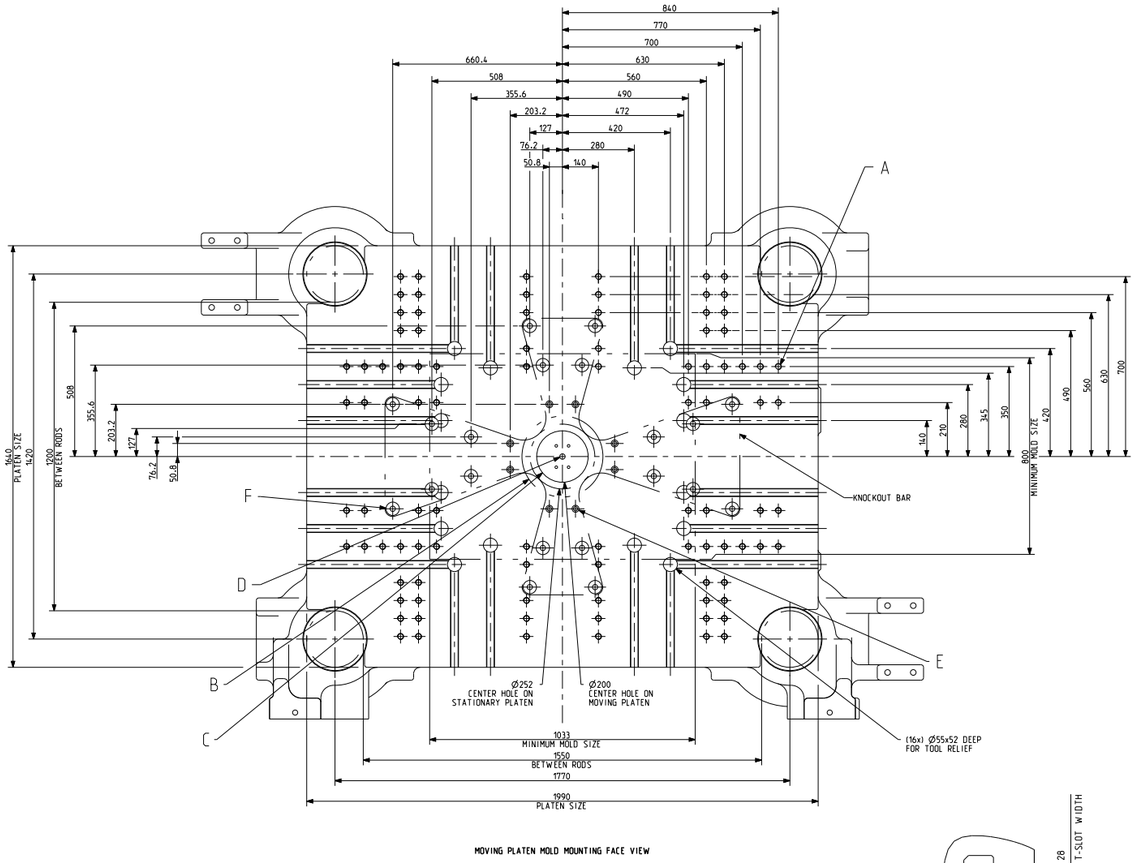
THE M-SERIES

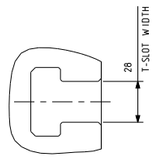
TONNAGE: 1100 Metric

Available Packages:
Standard (STD)
Increased (INCR)
Performance (PERF)

Frame Sizes:
6610, 10100, 13500, 16000

TECHNICAL SPECIFICATIONS





T-SLOT DETAILS

ALL DIMENSIONS ARE IN MM

A M24x48 DEEP
(92x) HOLES IN MOVING PLATEN
(104x) HOLES IN STATIONARY PLATEN

B Ø315 H8(+0.08)x25 DEEP
W/O DIE LOCATING RING ON STATIONARY PLATEN

Ø250 H8(+0.07)
WITH DIE LOCATING RING ON STATIONARY PLATEN

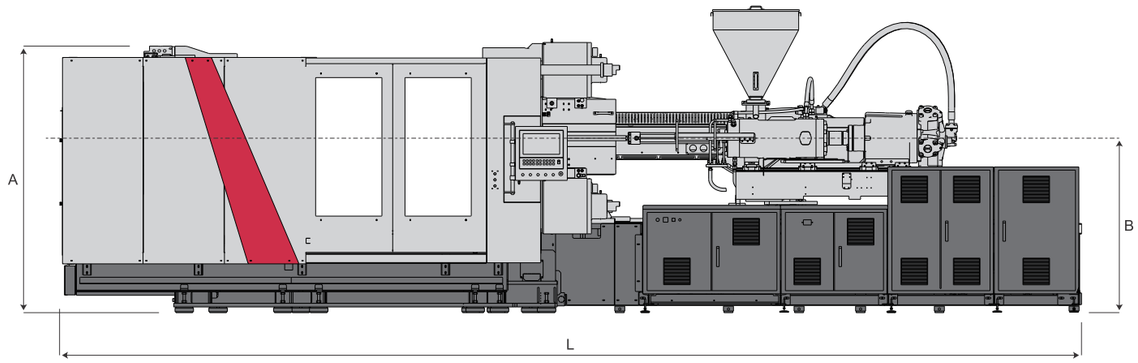
C Ø200 H8(+0.07)x25 DEEP
W/O DIE LOCATING RING ON MOVING PLATEN

D M24x25 DEEP CENTER KNOCKOUT TAPPED HOLE

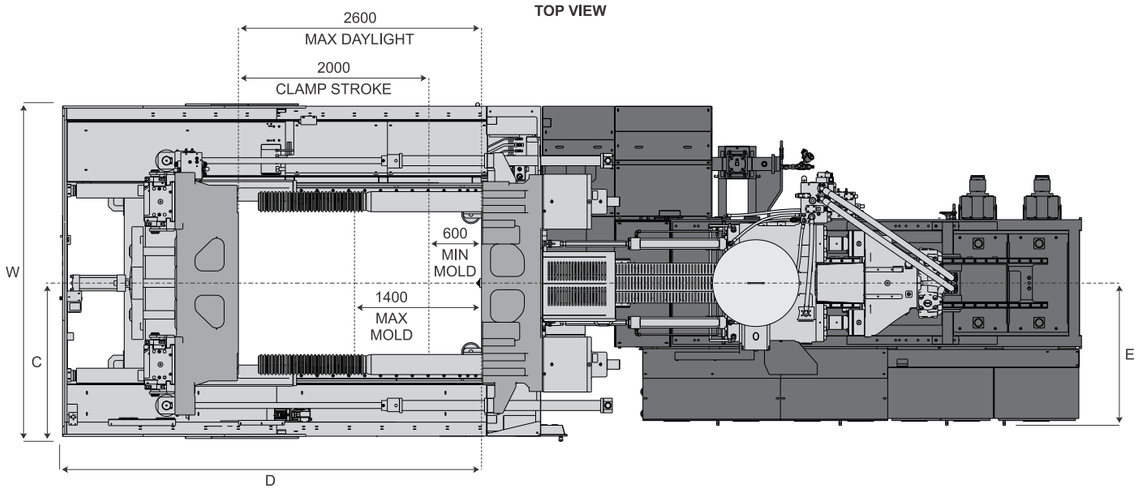
E (8x) Ø27 THRU PLATEN
(8x) Ø16.5 THRU KNOCKOUT BAR
(8x) Ø36x3 COUNTER BORE BACK

F (20x) Ø52 THRU PLATEN
(20x) Ø20.5 THRU KNOCKOUT BAR
(20x) Ø44.5x3 COUNTER BORE BACK

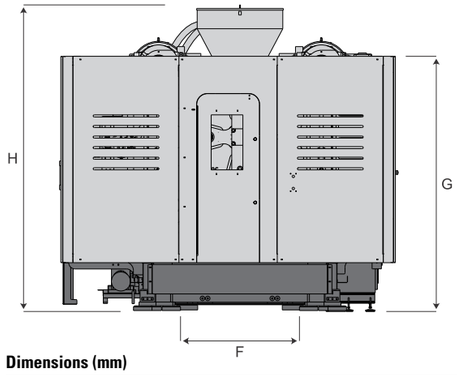
FRONT VIEW



TOP VIEW

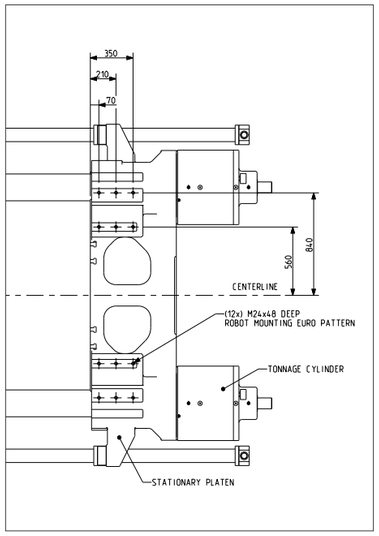


CLAMP END



Dimensions (mm)

	6610 Frame 95.6 / 117.7 / (143.4) kW	10100 Frame 95.6 / 117.7 / (143.4) kW	13500 Frame 95.6 / 117.7 / (143.4) kW	16000 Frame 95.6 / 117.7 / 143.4 kW
L	10089 / 10924 / (12134)	10699 / 11402 / (12134)	11123 / 11732 / (12134)	12134
W	3577	3577	3577	3577
H	2900	3105	3134	3117
A	2626	2626	2626	2626
B	1650	1650	1650	1650
C	1647	1647	1647	1647
D	4414	4414	4414	4414
E	1345	1345	1345	1345
F	1520	1520	1520	1520
G	2426	2426	2426	2426



THE M-SERIES

TONNAGE: 550, 650, 800, 950, 1100

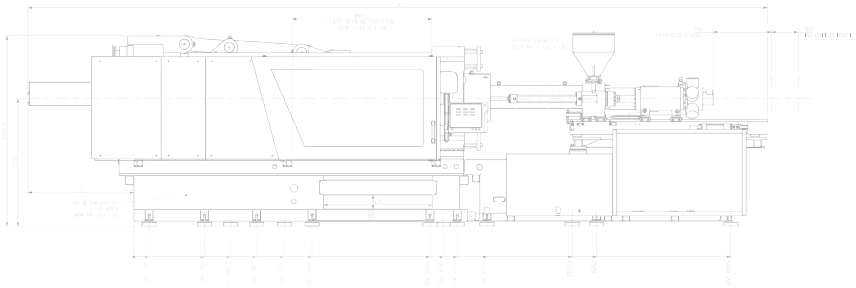
High Torque Low Speed

Frame Sizes:
10100, 13500, 16000

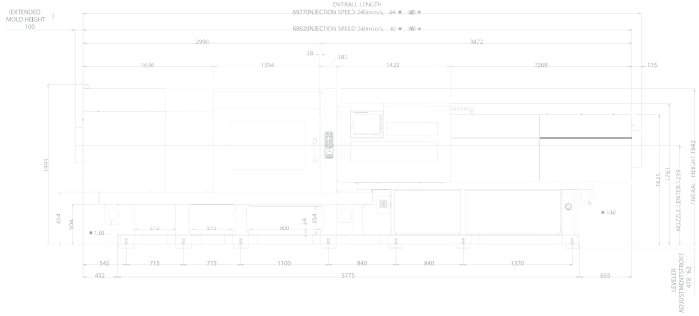
TECHNICAL SPECIFICATIONS

			10100 Frame			13500 Frame			16000 Frame		
		METRIC	A'	A	B	A'	A	B	A'	A	B
High Torque Low Speed											
69.9 kW	Screw Speed	rpm	95	95	95	77	77	77	—		
	Screw Torque @ 169 Bar	Nm	10814			13348			—		
	Plasticizing Rate (GPPS)	gm/sec	80	101	134	82	109	129	—		
95.6 kW	Screw Speed	rpm	126	126	126	102	102	102	78	78	78
	Screw Torque @ 169 Bar	Nm	10814			13348			17437		
	Plasticizing Rate (GPPS)	gm/sec	106	135	179	109	145	172	83	110	143
117.7 kW	Screw Speed	rpm	158	158	153	128	128	128	97	97	97
	Screw Torque @ 169 Bar	Nm	10814			13348			17437		
	Plasticizing Rate (GPPS)	gm/sec	133	168	217	136	181	215	104	138	179
143.4 kW	Screw Speed	rpm	170	170	153	150	150	141	117	117	117
	Screw Torque @ 169 Bar	Nm	10814			13348			17437		
	Plasticizing Rate (GPPS)	gm/sec	143	181	217	160	213	238	124	165	215

NOTES



All specifications reflect average values based on typical machine layouts. Actual figures will vary depending on final machine configuration. Performance specifications are based on theoretical data. Photograph may show attachments or accessories, which may not be part of the standard scope of supply. Due to continual improvements, specifications & some components are subject to change without notice.



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