MILACRON®

THE C-SERIES

1300-4000 TON

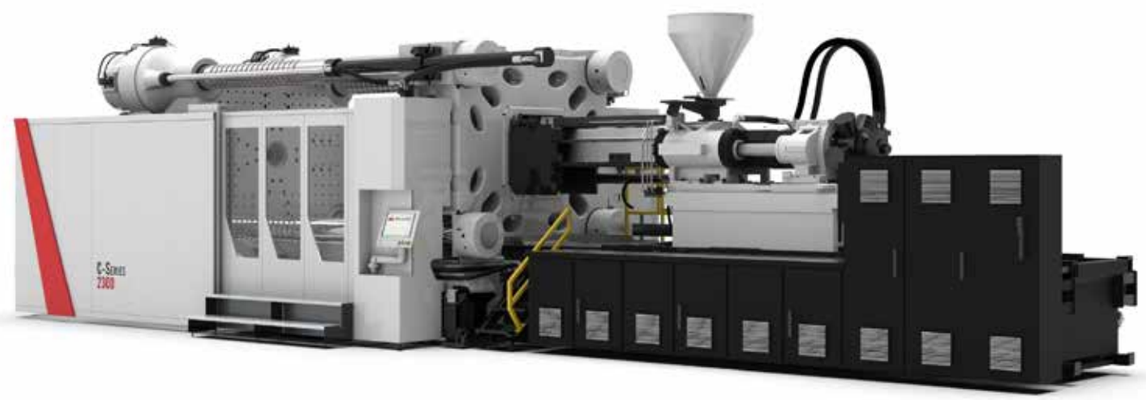
THE C-SERIES

1300-4000

Introducing the next generation of Milacron Innovation. The C-Series expands on Milacron's leading big machine technology through a large-tonnage two-platen press powered by an energy efficient servo-motor hydraulic system, geared towards versatility, and designed to exceed the demands of global automotive, appliance, pallet, and other large molded parts. Powered and driven by the energy-efficient and highly reliable Fanuc servo motor power pack, the C-Series's enhanced machine specifications and performance offer improved reliability, higher max mold weights, faster clamp speeds, and a compact footprint. The C-Series is a true global machine in design, performance, and reliability.

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

- Energy efficient hybrid powered by the industry-leading FANUC servo motor
- Higher performance featuring application driven machine configuration (3 standard performance packages available)
- Enhanced application capability: multi-component, stack tools, and larger injection unit sizes for large part production
- Designed for quicker mold changes with improved mold and ejector access
- New Mosaic+ Control
- Precise platen parallelism to reduce machine, mold, and part issues
- Additional clamp and injection unit combinations



C-SERIES THE NEXT GENERATION OF MILACRON INNOVATION

INTEGRATED LOCK NUT/TONNAGE SYSTEM

- Advanced control and improved speed
- Uniform clamp force distribution
- Supported strain rods
- Reduced mold wear

COMPACT 2 PLATEN TECHNOLOGY

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

OPTIONAL INTEGRATED HOT RUNNER CONTROLLER

- Mold-Masters TempMaster iM2 Controller
- Seamless integration
- Reduced mold interface complexity
- Virtual Network Control (VNC) controlled via the Mosaic control screen
- Widest selection of interchangeable control cards

MULTIPLE STANDARD INJECTION FRAMES

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

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

STANDARD FULL SPI EJECT SYSTEM

- Full SPI ejector bar 1300-2300 tons optional on 2700 tons and larger
- Improved ejector access for reduced mold setup time

MOSAIC + CONTROL

- 21” multi-touch screen with configurable “PLUS” area
- Integrated auxiliary equipment screens

FANUC MOTOR AND DRIVE PACKAGE

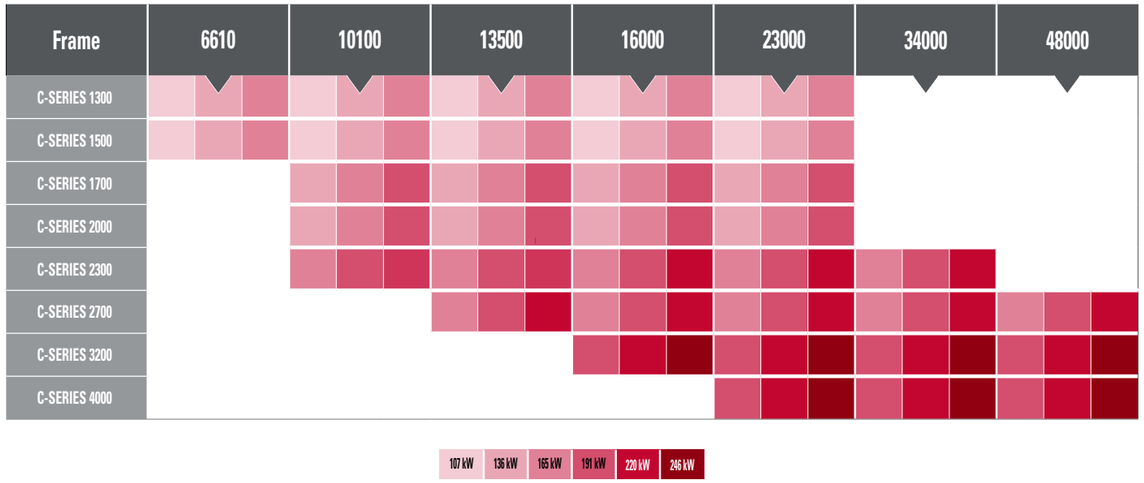
- Servo driven machine performance and superior reliability
- Up to 70% energy savings
- Digital control of pressure and flow via servo system
- Closed loop clamp and injection control
- Fixed gear pumps for improved reliability
- Quiet machine operation
- Offers fast acceleration rate and utilizes highly efficient and powerful permanent neodymium magnets

PROVIDING THE HIGHEST PERFORMANCE, PRECISION AND FLEXIBILITY.

C-SERIES

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

INJECTION UNIT SPECIFICATIONS



CLAMP SPECIFICATIONS

MODEL	TONNAGE		TIE BAR SPACING	MAX DAYLIGHT	MIN / MAX MOLD
	Kilo-newton (kN)	US Tons	mm	mm	mm
C-SERIES 1300	13000	1470	1650 x 1310	2950	700 / 1560
C-SERIES 1500	15000	1690	1750 x 1400	2950	700 / 1560
C-SERIES 1700	17000	1920	1850 x 1415	3400	700 / 1600
C-SERIES 2000	20000	2250	1870 x 1620	3700	700 / 1900
C-SERIES 2300	23000	2590	2020 x 1620	3800	800 / 1900
C-SERIES 2700	27000	3030	2175 x 1750	3800	800 / 2000
C-SERIES 3200	32000	3600	2270 x 1820	4200	900 / 2000
C-SERIES 4000	40000	4500	2325 x 2025	4300	900 / 2200

APPLICATIONS

- *AUTOMOTIVE*
- *CONSTRUCTION*
- *HOUSEWARES AND APPLIANCE*
- *INDUSTRIAL APPLICATIONS*
- *STORAGE AND TRANSPORT CONTAINERS*

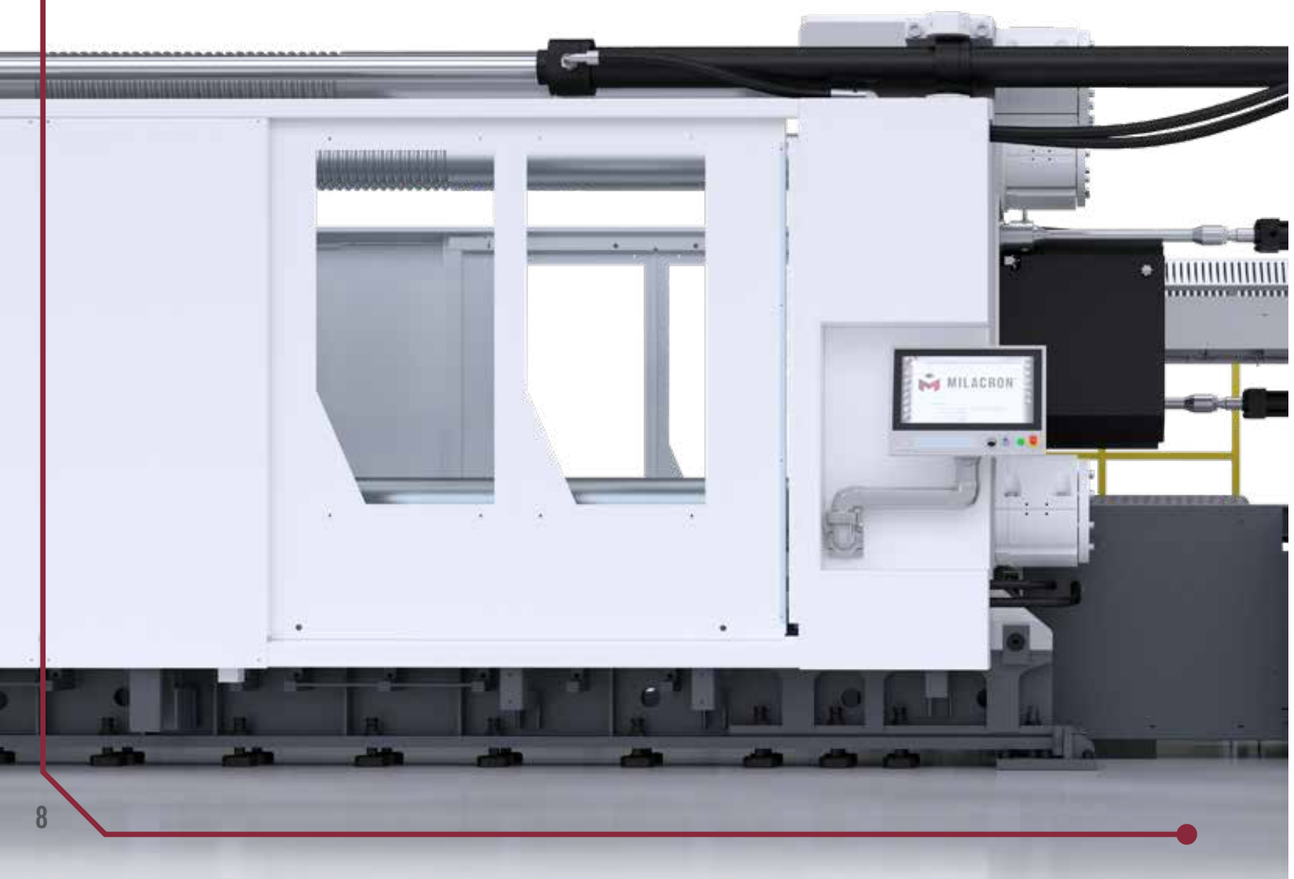
COMPACT TWO-PLATEN CLAMP TECHNOLOGY

- Rigid platen design – deflection matching center tonnage designs platens accommodate a large variation in mold sizes and weights
  - Small square, long vertical, long horizontal, and heavy stack tools
    Platens designed with 'open box' construction providing:
    - Thicker platen for increased stiffness
    - Uniform force distribution across mold face
    - Low mass for increased acceleration and deceleration

- Enhance platen parallelism
  - Fully supported strain rods
  - Moving platen design with integrated support bushings
  - Precision base rail guide system with adjustable platen mounted skate blocks

- The C-Series brings you increased production capability in a reduced footprint using 10-20% less floor space than comparable machines

- Quick mold changes through open access to ejector area, improved mold access, and large number of standard options



CLAMPING UNIT

- Integrate lock nut and tonnage system
  - Independent control for faster lock speeds and tonnage control
  - Improved reliability and reduced cycle time
  - Higher breakaway forces
  - Improved parallelism control
  - Nut lock assembly with individual linear transduces and integrated support shoe for precise seal alignment and improved reliability

- High speed traverse cylinders with trunnion mount and integrated seal gland drain allows higher clamp speed, improved alignment, and longer seal life

- Optional mold access maintenance platform providing excellent access to the mold area reducing changeover time and improving mold maintenance access. The platform provides presence sensing using adjustable springs and integrated sensors. Platform meets ANSI and CE certification requirements.

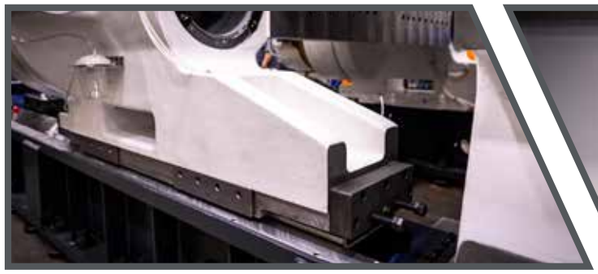
- Rigid and adjustable moving platen support shoes
  - The moving platen is guided and supported by large support shoes. The ridged design allows for precise side to side platen guidance while providing tilt adjustment for large oversize molds.

- Base monitoring (optional)

- Automatic lubrication of the nut lock and skate components

Tonnage Cylinder

Traverse Cylinders with Trunnion mount



Large Integrated Support Shoes

Base-Level Monitoring (Optional)

INJECTION UNIT

Milacron offers a wide selection of injection unit sizes, barrels, and screws for the C-Series, increasing customer flexibility in processing.

- Closed loop injection control
- Higher L/D ratio – better plasticizing and homogeneity
- Improved pull – pin clevis design for easy injection unit swivel
- Twin cylinder injection unit distributes the force equally across the screw centerline
- Injection unit swivel for easy screw removal
- 10 stage injection velocity and 10 stage injection pressure profile
- 10 stage screw speed and 10 stage back pressure control (setting) through screen
- Digital setting of extruder RPM and digital read out of actual RPM
- Switch over from fill to pack based on position, time, and pressure
- Linear position transducer for accurate injection position control
- Injection decompression before/after refilling or both
- Semi-auto purge and cold slug removal
- Integrated purge platform with aluminum tread plate
- Insulated Heater Bands
- Barrel ID Plugs
  - Automatic machine adjustment to accommodate the standard screw combinations
- Precision linear rail for screw alignment

The C-Series's enhanced machine specifications and performance are powered by proven FANUC servo-motor power packs for improved reliability, higher max mold weights, faster clamp speeds, and added tonnage sizes. Utilizing a FANUC servo-system results in a longer machine component life while also increasing oil life. The motor/pump only delivers oil as needed which reduces heat generation and water consumption.

SERVO-HYDRAULIC SYSTEM

BENEFITS INCLUDE

- Improved cycle precision and repeatability – closed loop system
- Reduced energy consumption
- Increased accuracy and precision – rotational control to a fraction of a degree
- High response – low inertia
- Noise reduction – up to 80% quieter than conventional hydraulic machines
- Ability to remotely monitor for troubleshooting and analysis
- Reduced sensitivity to contamination
- Increased reliability and lower maintenance costs
- Bi-directional pump for fast response in pressure control
- Pump is stopped intermittently during the cycle
- Servo-system designed for demanding and diverse applications

FANUC HIGH-PERFORMANCE, HIGH-EFFICIENCY SERVO-MOTORS

- 50 years mean time between failures (MTBF)
- High-efficiency servo-system uses power generated during deceleration of motors, excellent energy-saving performance
- Designed to meet global safety standards (ANSI and CE)
- FANUC motors use high-energy neodynium magnets, for superior cost and performance ratios

MOSAIC+ CONTROLLER SYSTEM

It's easy to maximize the reliability and adaptability of Milacron machines with the ergonomic touch-screen control of MOSAIC+. Fast processing speeds power extensive data collection and report generation, as well as integration with automation controls to further simplify the whole process.

EXCEPTIONAL STANDARD FEATURES

- Multi-touch capable 21.5" HD touch screen
- Intuitive operator interface
- Configurable screen layout
- Remote mounted IP camera interface
- Windows based operating system
- Optional integrated Mold – Master hot runner control

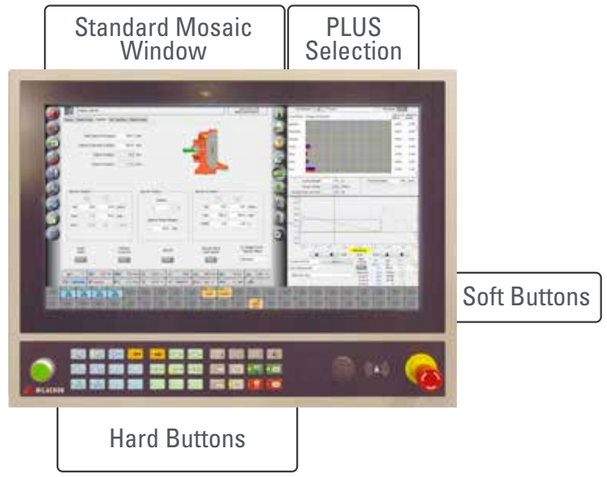
MOSAIC+ Screen versatility gives the operator simultaneous views of multiple machine functions and related equipment, such as hot runner control and remote mounted IP cameras.

- Set point overview page for quick access – actual set points for each axis at the bottom of the page
- Display of 700 process monitor samples stored on control or virtually unlimited samples on USB stick or network drive via reports
- Graphic display of 33 integrated soft keys with LED's located below screen
- Process monitoring of over 50 possible parameters with graphically displayed min, max, and average
- 8 + 8 freely configurable I/O
- Self diagnostic and fault finding capability
- 8 SPC distribution, XBar, and R charts with over 50 possible parameters
- Data protection with 4 access levels for up to 30 machine operators
- Fully-configurable cores
- Save mold data and screen shots to USB keys
- Change log and alarm log are 700 on the control, virtually unlimited on USB stick or network drive via reports

PLUS SCREEN TECHNOLOGY

The PLUS section has four configurable window spaces.
In this section, the operator can choose to show:

- Four small windows
- One large and two small windows
- Two large windows

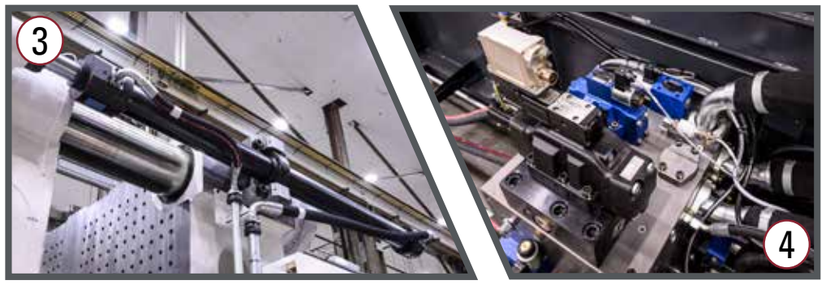


Content choices for the four windows include:

- Alarms log
- Energy overview
- Production run
- Injection graphics
- Trend data analysis
- Trend graphics
- Cycle analysis
- SPC charts
- Integrated robot, dryer and hot runner (optional)
- Status page
- Integrated camera with zoom capability (optional)

HIGH-QUALITY COMPONENTS

1. Motor/Drives - FANUC
2. Control Hardware - B&R



3. High Speed Traverse Cylinders - Milacron Approved Supplier
4. Control Valves - RexRoth/ ATOS

5. Fixed Gear Pump - Voith
6. Filtration - Hydac

7. Auto Lubricator - Dropsa
8. Extruder Motor - Calzoni

STANDARD FEATURES

	Standard	Optional
GENERAL		
Advanced 2 platen technology powered by energy efficient servo motor hydraulic system	●	
Power pack driven by proven Fanuc AC servo motor and drive package	●	
Direct control of pressure and flow via internal gear pumps	●	
Multiple servo motor systems for parallel operation of eject and core pull	●	
Improved layout of manifolds and hoses on non-operator side	●	
Monitored shut off valve to pump suction lines	●	
Dual Channel Pressure Transducer for Reduced Down Time with LED Indication	●	
Designed for serviceability (test ports, access, etc)	●	
Independent full time kidney-loop filtration and cooling (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		○
Open access to ejector area for quick/easy mold change	●	
Robot Interface as per EUROMAP 67 (Compatible with ANSI 146)	●	
Robot mounting pads on stationary platen (optional SPI plates)	●	○
Power operated operator's gate	●	
Flareless bite type fittings with elastomeric seals for hydraulic tube connections	●	
Injection purge platform (operator and non-operator access)	●	
Improved mold area access (optional die area platform)		○
Ventilated control cabinet mounted outside of base with over temperature alarm (optional air conditioner)	●	○
Anchor blocks mounted to machine base (customer supplied anchor bolts and installation)	●	
Leveling pads	●	
Steps into Operator Gate Enclosure (Metric 2000/US 2250 ton and larger)	●	
Die Area Platform	●	
Y strainer in Main Water Inlet for all machines	●	
Machine Safety - ANSI	●	

	Standard	Optional
EJECT		
Standard machine mounted eject system (SPI) (C1300, C1500, C1700, C2000 & C2300)	●	
Credit for removed ejector system option available on above models		○
Standard mold mounted eject system – machine mounted K/O bar and cylinder not included (C2700, C3200 & C4000)	●	
Machine mounted eject system (SPI) (C2700, C3200 & C4000)		○
Pulsating ejection	●	
Position transducer used for setup and readout of ejector positions	●	
Proportional control of eject speed and pressure 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	●	
Eject retract limit switch verification (software/signals only)	●	

	Standard	Optional
INJECTION		
Twin cylinder injection units for compact footprint	●	
Diagonal mounted twin pull-in cylinders for even nozzle force distribution (10100 and larger)	●	
Closed loop injection velocity and pressure control	●	
Closed loop feed throat temperature monitor and control, alarm only	●	
Injection fill to pack by screw position, volume, pressure, or time	●	
Direct drive single stage hydraulic screw motor (10100 and larger)	●	
Short stroke slider ring	●	
Nitrided barrel and general purpose medium compression screw (10100 and larger)	●	
Nitrided barrel and general purpose barrier screw (6610 frames and smaller)	●	
Sprue break by pressure switch	●	
Solid state relays for barrel heats	●	
Injection unit swivel for easy nozzle, screw, and barrel maintenance	●	
J-Style thermocouples	●	
Hopper slide with shutoff, open/close, op side emptying (optional powered slide)	●	
Ceramic insulated heater bands	●	
Heater zones labeled per Euromap 5	●	
6 zone barrel heats (6610-23000) and 7 Zone (34000 & Larger)	●	
Nozzle contact force by pressure transducer	●	
Barrel ID plugs / control pre-configured for (A', A, B) barrel combinations		○

	Standard	Optional
CLAMP		
2 Platen Clamp design with fixed strain rod position and tonnage pads on moving platen	●	
Integrate twin cylinder high speed nut lock system	●	
Compact footprint	●	
Increased max mold weight capacity	●	
Reduced (Euro-map 6) dry cycle times	●	
Catrac cable carrier for reduce hose wear	●	
Closed loop clamp speed, position control, and mold protection	●	
Closed loop tonnage control	●	
"Mold Guard" Enhanced full stroke mold protection	●	
SPI mold mounting pattern on platens	●	
Extended and adjustable moving platen supports on hardened steel ways	●	
Replaceable 5" diameter 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 Tonnage cylinder area	●	
Automatic lubrication of strain rods, skates and lock nuts	●	
Chrome Tie Bar		
Electric Motor Powered Gate	●	
Self adjusting ratchet style jam bar		○

	Standard	Optional
MACHINE POWER PACK		
3 Performance Levels available Standard / Increased / Performance Performance levels affect injection, extruder, clamp, eject, and core specifications See machine specification sheet for details	●	

WORKCELL INTEGRATION & APPLICATIONS

AUXILIARY SOLUTIONS

- Hot runner controllers
- Integrated robot cells
- Dryers
- Hydraulic mold clamping systems
- Conveyors
- Portable chillers and mold temp controllers

APPLICATIONS

- Milacron technology package
  - Clamp breather sequence
  - Coining compression molding
  - Expansion/Decompression molding
  - Active parallelism control
- Specialty screws and barrels
- Long fiber applications
- Monosandwich/Co-Injection
- Integrated iMFLUX technology
- Stack molds
- Electric screw drive
- Multi-Component
- Tie rod puller
- PVC/cPVC solutions
- Lightweighting

Tie rod puller

Perpendicular 2nd injection unit

M-POWERED

M-POWERED INTELLIGENCE

- M-POWERED leverages the latest in Industrial Internet of Things (IIoT) and data science to contribute unique insights and intelligence into your machine's current operations and future needs.
- Accompany the growing list of M-Powered customers that are experiencing a reduction in service trips and up to a 50% reduction in time to resolution of unplanned downtime events.
- Once an appointment is confirmed, a Milacron technician will be at your facility within the next 10 days to bring your machine online. Alternative connection choices are possible in the event of a more complex IT setup.

M·POWERED

M-Powered Applications	ADVANTAGE	ESSENTIAL	PREMIER
Connect Portal	✓	✓	✓
Technical Support	On Demand (payable per hour)	✓	✓ (24/7)
Production Monitoring	✓	✓	✓
Downtime Tracking		✓	✓
Preventative Maintenance			✓
Predictive Analytics			✓

THE C-SERIES

TONNAGE: 1300 Metric

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

Frame Sizes:
6610, 10100, 13500, 16000, 23000

TECHNICAL SPECIFICATIONS

C-SERIES 1300		6610 Frame			10100 Frame			13500 Frame			16000 Frame			23000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications																
Injection Capacity, Maximum GPPS	gms	2659	3283	3972	4185	5064	6539	5507	7112	8295	6330	8174	10253	9341	11718	15305
Screw Diameter	mm	90	100	110	100	110	125	110	125	135	110	125	140	125	140	160
L/D Ratio	L/D	24.4	22	20	25.0	22.7	20.0	24.5	21.6	20.0	25.7	22.6	20.0	25.8	23.0	20.0
Theoretical Displacement	cm^3	2799	3456	4181	4398	5321	6872	5797	7486	8731	6652	8590	10775	9817	12315	16084
Maximum Injection Pressure	bar	2295	1914	1582	2290	1890	1462	2106	1798	1542	2345	1890	1510	2207	1897	1448
Maximum Injection Pressure with Regen	bar	2026	1690	1396	2037	1683	1304	1848	1578	1353	2103	1694	1350	1940	1657	1269
Injection Rate **(STD PKG)- 107 kW**	cm^3/sec	722	891	1078	664	803	1037	722	932	1087	622	803	1007	615	771	1007
Injection Velocity **(STD PKG)- 107 kW**	mm/sec	113			84			76			66			51		
Injection Rate with Regen **(STD PKG) - 107 kW**	cm^3/sec	817	1009	1221	746	903	1166	822	1062	1239	695	897	1125	703	882	1152
Injection Velocity with Regen **(STD PKG) - 107 kW**	mm/sec	128			95			87			73			57		
Injection Rate **(INCR. PKG)- 136 kW**	cm^3/sec	904	1116	1350	832	1006	1299	904	1167	1362	779	1006	1261	770	966	1261
Injection Velocity **(INCR. PKG)- 136 kW**	mm/sec	142			107			95			81			64		
Injection Rate with Regen **(INCR. PKG) - 136 kW**	cm^3/sec	1024	1264	1529	935	1131	1460	1030	1330	1552	870	1124	1410	881	1105	1443
Injection Velocity with Regen **(INCR. PKG) - 136 kW**	mm/sec	161			119			108			92			72		
Injection Rate **(PERF. PKG)- 165 kW**	cm^3/sec	1086	1341	1623	999	1209	1562	1086	1403	1636	936	1208	1516	925	1161	1516
Injection Vleocity **(PERF. PKG)- 165 kW**	mm/sec	171			127			114			99			76		
Injection Rate with Regen **(PERF. PKG) - 165 kW**	cm^3/sec	1230	1519	1838	1123	1359	1755	1238	1599	1865	1046	1350	1694	1058	1328	1734
Injection Velocity with Regen **(PERF. PKG) - 165 kW**	mm/sec	193			143			130			110			86		
Screw Stroke	mm	440			560			610			700			800		
Back Pressure Limit	bar	34.5			34.5			34.5			34.5			34.5		
Screw Speed Maximum **(STD PKG) - 107 kW**	rpm	164	164	164	147	147	147	113	113	113	76			66		
Screw Speed Maximum **(INCR. PKG) - 136 kW**	rpm	206	191	175	180	174	154	142	142	142	95			83		
Screw Speed Maximum **(PERF. PKG) - 165 kW**	rpm	212	191	175	180	174	154	170	153	142	114			100		
Torque at Screw	Nm	7931			9295			11511			17871			21014		
	bar	169														
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 107 kW**	gm/sec	109	138	175	123	157	208	121	161	191	81	108	140	94	122	171
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 136 kW**	gm/sec	136	160	186	151	185	218	152	201	239	101	134	174	117	153	214
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 165 kW**	gm/sec	140	160	186	151	185	218	181	217	240	122	162	210	142	185	259
Number of Pyrometers (Barrel/Nozzle)	qty	6+1														
Total Heat Capacity	kW	60.4			64.5			65.0			65.0			92.5		
Nozzle Holding Force	kN	112														

C-SERIES 1300		6610 Frame			10100 Frame			13500 Frame			16000 Frame			23000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp																
Clamping Force	kN	13000														
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	297 / 910														
Clamp Stroke	mm	2250														
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	911 / 1219 / 1219														
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	950 / 1270 / 1270														
Ejector Force	kN	250														
Maximum Ejector Stroke	mm	300														
Mold Protect Pressure	bar	103.4														
Maximum Daylight	mm	2950														
Min/Max Mold Thickness	mm	700 / 1560														
Maximum Mold Weight (50% per Platen)	kg	32000														
Platen Size (H × V)	mm	2110 x 1770														
Distance Between Tie Rods (H x V)	mm	1650 x 1310														
Tie Rod Diameter	mm	230														
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	6.0 / 5.1 / 5.1														
Diagonal Tiebar Distance	mm	2200														
Mold Locating Ring	mm	250														
General - STD Package																
Hydraulic System Pressure	bar	230														
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 107 kW**	mm	11952.5 x 3774 x 3034			11952.5 x 3774 x 3178			11952.5 x 3774 x 3208			11952.5 x 3774 x 3208			12852 x 3774 x 3225		
Machine Weight (with oil) **(STD PKG) - 107 kW**	kg	55727			59965			61986			63297			68348		
Core Pull **(STD PKG) - 107 kW**	L/min	151														
Total Connected Load **(STD PKG) - 107 kW**	kW	167.4			171.5			172			172			199.5		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 136 kW**	mm	11952.5 x 3774 x 3034			11952.5 x 3774 x 3178			11952.5 x 3774 x 3208			11952.5 x 3774 x 3208			12852 x 3774 x 3225		
Machine Weight (with oil) **(INCR. PKG) - 136 kW**	kg	55727			59965			61986			63297			68348		
Core Pull **(INCR. PKG) - 136 kW**	L/min	151														
Total Connected Load **(INCR. PKG) - 136 kW**	kW	196.4			200.5			201			201			228.5		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 165 kW**	mm	11952.5 x 3774 x 3034			11952.5 x 3774 x 3178			11952.5 x 3774 x 3208			11952.5 x 3774 x 3208			12852 x 3774 x 3225		
Machine Weight (with oil) **(PERF. PKG) - 165 kW**	kg	55727			59965			61986			63297			68348		
Core Pull **(PERF. PKG) - 165 kW**	L/min	246														
Total Connected Load **(PERF. PKG) - 165 kW**	kW	225.4			229.5			230			230			257.5		
Total Oil Reservoir Capacity	L	1742												2234		
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.

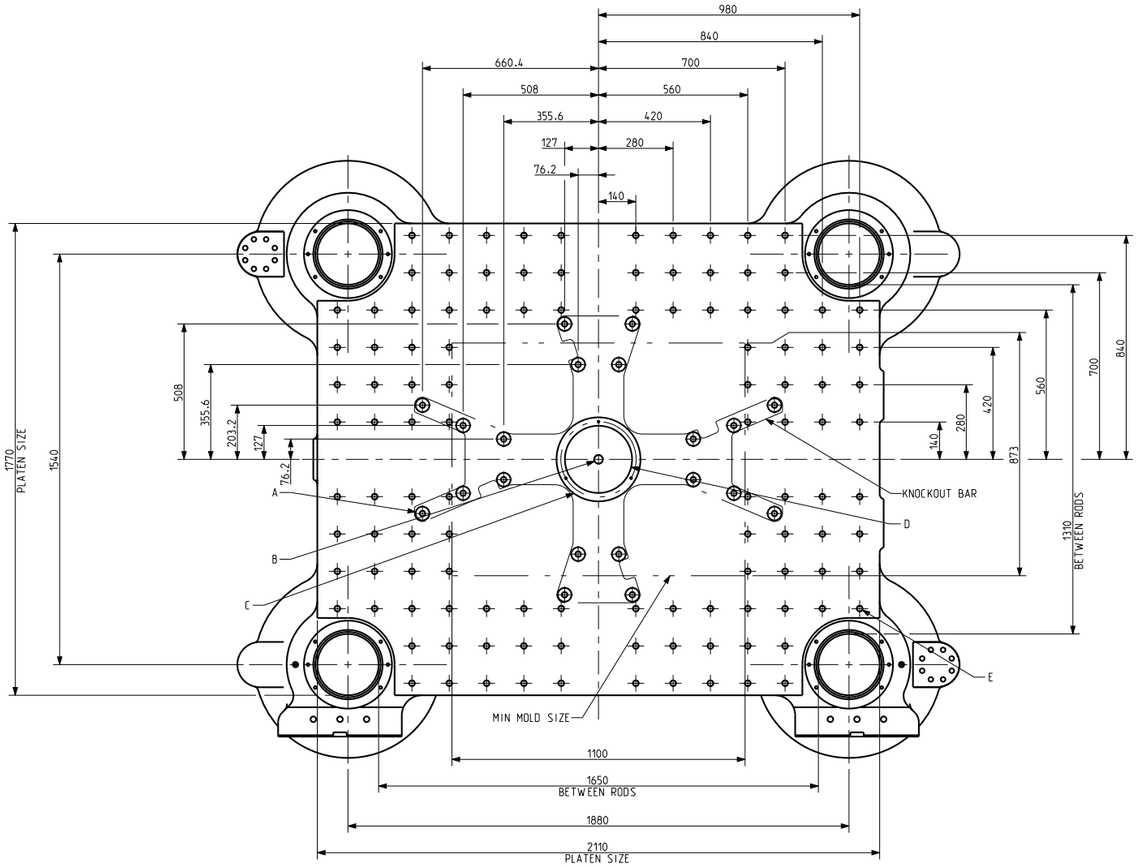
THE C-SERIES

TONNAGE: 1300 Metric

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

Frame Sizes:
6610, 10100, 13500, 16000, 23000

TECHNICAL SPECIFICATIONS



SECTION **A-A**
SCALE 3:25
MOLD MOUNTING FACE VIEW

ALL DIMENSIONS ARE IN MM

A (20x) Ø52 THRU PLATEN
(20x) 20.63 THRU KNOCKOUT BAR
(20x) 44.5x3 COUNTER BORE BACK SURFACE OF KNOCKOUT BAR
DIMENSIONS TYPICAL IN ALL QUADRANTS

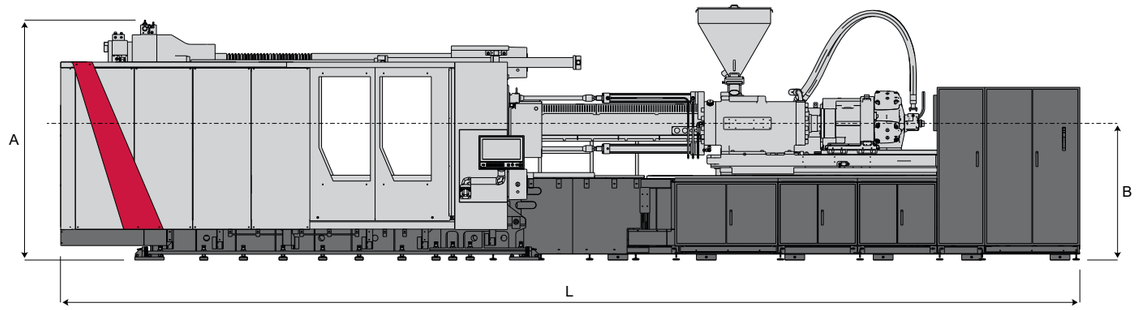
B M36x65 DEEP CENTER KNOCKOUT TAPPED HOLE

C Ø315 H8(+0.081)x25 DEEP
W/O DIE LOCATING RING ON MOVING & STATIONARY PLATEN

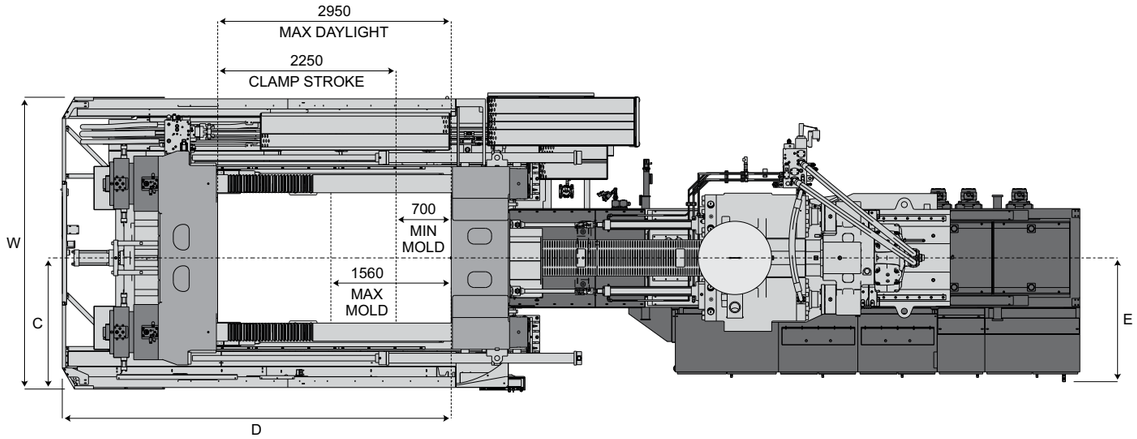
D Ø252 CENTER HOLE ON MOVING & STATIONARY PLATEN

E M24x48 DEEP
(116x) HOLES IN MOVING PLATEN
(116x) HOLES IN STATIONARY PLATEN
DIMENSION TYPICAL IN ALL QUADRANTS

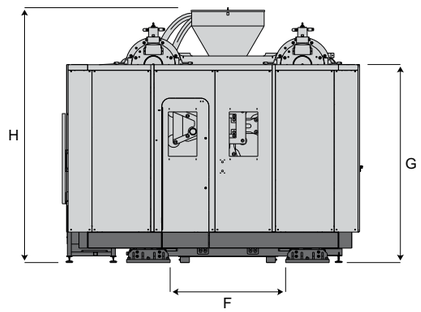
FRONT VIEW



TOP VIEW



CLAMP END

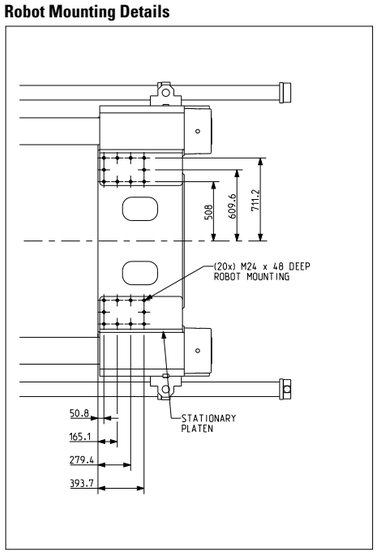


Dimensions (mm)

	6610 Frame	10100 Frame	13500 Frame	16000 Frame	23000 Frame
L	11952	11952	11952	11952	12873
W	3774	3774	3774	3774	3774
H	2904*	3183	3213	3195	3230
A	3034	3034	3034	3034	3034
B	1728	1728	1728	1728	1728
C	1663	1663	1663	1663	1663
D	4910	4910	4910	4910	4910
E	1568	1568	1568	1568	1568
F	1456	1456	1456	1456	1456
G	2508	2508	2508	2508	2508

* HEIGHT FOR 6610 FRAME SHOULD BE 3035 MM SINCE THE CLAMP IS HIGHER THAN HOPPER IN THIS FRAME

Robot Mounting Details



THE C-SERIES

TONNAGE: 1500 Metric

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

Frame Sizes:
6610, 10100, 13500, 16000, 23000

TECHNICAL SPECIFICATIONS

C-SERIES 1500		6610 Frame			10100 Frame			13500 Frame			16000 Frame			23000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications																
Injection Capacity, Maximum GPPS	gms	2659	3283	3972	4185	5064	6539	5507	7112	8295	6330	8174	10253	9341	11718	15305
Screw Diameter	mm	90	100	110	100	110	125	110	125	135	110	125	140	125	140	160
L/D Ratio	L/D	24.4	22	20	25.0	22.7	20.0	24.5	21.6	20.0	25.7	22.6	20.0	25.8	23.0	20.0
Theoretical Displacement	cm^3	2799	3456	4181	4398	5321	6872	5797	7486	8731	6652	8590	10775	9817	12315	16084
Maximum Injection Pressure	bar	2295	1914	1582	2290	1890	1462	2106	1798	1542	2345	1890	1510	2207	1897	1448
Maximum Injection Pressure with Regen	bar	2026	1690	1396	2037	1683	1304	1848	1578	1353	2103	1694	1350	1940	1657	1269
Injection Rate **(STD PKG)- 107 kW**	cm^3/sec	722	891	1078	664	803	1037	722	932	1087	622	803	1007	615	771	1007
Injection Velocity **(STD PKG)- 107 kW**	mm/sec	113			84			76			66			51		
Injection Rate with Regen **(STD PKG) - 107 kW**	cm^3/sec	817	1009	1221	746	903	1166	822	1062	1239	695	897	1125	703	882	1152
Injection Velocity with Regen **(STD PKG) - 107 kW**	mm/sec	128			95			87			73			57		
Injection Rate **(INCR. PKG)- 136 kW**	cm^3/sec	904	1116	1350	832	1006	1299	904	1167	1362	779	1006	1261	770	966	1261
Injection Velocity **(INCR. PKG)- 136 kW**	mm/sec	142			107			95			81			64		
Injection Rate with Regen **(INCR. PKG) - 136 kW**	cm^3/sec	1024	1264	1529	935	1131	1460	1030	1330	1552	870	1124	1410	881	1105	1443
Injection Velocity with Regen **(INCR. PKG) - 136 kW**	mm/sec	161			119			108			92			72		
Injection Rate **(PERF. PKG)- 165 kW**	cm^3/sec	1086	1341	1623	999	1209	1562	1086	1403	1636	936	1208	1516	925	1161	1516
Injection Vleocity **(PERF. PKG)- 165 kW**	mm/sec	171			127			114			99			76		
Injection Rate with Regen **(PERF. PKG) - 165 kW**	cm^3/sec	1230	1519	1838	1123	1359	1755	1238	1599	1865	1046	1350	1694	1058	1328	1734
Injection Velocity with Regen **(PERF. PKG) - 165 kW**	mm/sec	193			143			130			110			86		
Screw Stroke	mm	440			560			610			700			800		
Back Pressure Limit	bar	34.5			34.5			34.5			34.5			34.5		
Screw Speed Maximum **(STD PKG) - 107 kW**	rpm	164	164	164	147	147	147	113	113	113	76			66		
Screw Speed Maximum **(INCR. PKG) - 136 kW**	rpm	206	191	175	180	174	154	142	142	142	95			83		
Screw Speed Maximum **(PERF. PKG) - 165 kW**	rpm	212	191	175	180	174	154	170	153	142	114			100		
Torque at Screw	Nm	7931			9295			11511			17871			21014		
	bar	169														
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 107 kW**	gm/sec	109	138	175	123	157	208	121	161	191	81	108	140	94	122	171
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 136 kW**	gm/sec	136	160	186	151	185	218	152	201	239	101	134	174	117	153	214
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 165 kW**	gm/sec	140	160	186	151	185	218	181	217	240	122	162	210	142	185	259
Number of Pyrometers (Barrel/Nozzle)	qty	6+1														
Total Heat Capacity	kW	60.4			64.5			65.0			65.0			92.5		
Nozzle Holding Force	kN	112														

C-SERIES 1500		6610 Frame			10100 Frame			13500 Frame			16000 Frame			23000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp																
Clamping Force	kN	15000														
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	297 / 1050														
Clamp Stroke	mm	2250														
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	911 / 1219 / 1219														
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	950 / 1270 / 1270														
Ejector Force	kN	250														
Maximum Ejector Stroke	mm	300														
Mold Protect Pressure	bar	103.4														
Maximum Daylight	mm	2950														
Min/Max Mold Thickness	mm	700 / 1560														
Maximum Mold Weight (50% per Platen)	kg	32000														
Platen Size (H × V)	mm	2240 x 1890														
Distance Between Tie Rods (H x V)	mm	1750 x 1400														
Tie Rod Diameter	mm	245														
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	6.4 / 5.5 / 5.5														
Diagonal Tiebar Distance	mm	2341														
Mold Locating Ring	mm	250														
General - STD Package																
Hydraulic System Pressure	bar	230														
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 107 kW**	mm	11953 x 3863 x 3186			11953 x 3863 x 3255			11953 x 3863 x 3255			11953 x 3863 x 3267			12852 x 3863 x 3302		
Machine Weight (with oil) **(STD PKG) - 107 kW**	kg	60955			65371			67214			68701			73752		
Core Pull **(STD PKG) - 107 kW**	L/min	151														
Total Connected Load **(STD PKG) - 107 kW**	kW	167.4			171.5			172			172			199.5		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 136 kW**	mm	11953 x 3863 x 3186			11953 x 3863 x 3255			11953 x 3863 x 3255			11953 x 3863 x 3267			12852 x 3863 x 3302		
Machine Weight (with oil) **(INCR. PKG) - 136 kW**	kg	60955			65371			67214			68701			73752		
Core Pull **(INCR. PKG) - 136 kW**	L/min	151														
Total Connected Load **(INCR. PKG) - 136 kW**	kW	196.4			200.5			201			201			228.5		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 165 kW**	mm	11953 x 3863 x 3186			11953 x 3863 x 3255			11953 x 3863 x 3255			11953 x 3863 x 3267			12852 x 3863 x 3302		
Machine Weight (with oil) **(PERF. PKG) - 165 kW**	kg	60955			65371			67214			68701			73752		
Core Pull **(PERF. PKG) - 165 kW**	L/min	246														
Total Connected Load **(PERF. PKG) - 165 kW**	kW	225.4			229.5			230			230			257.5		
Total Oil Reservoir Capacity	L	1742												2234		
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.

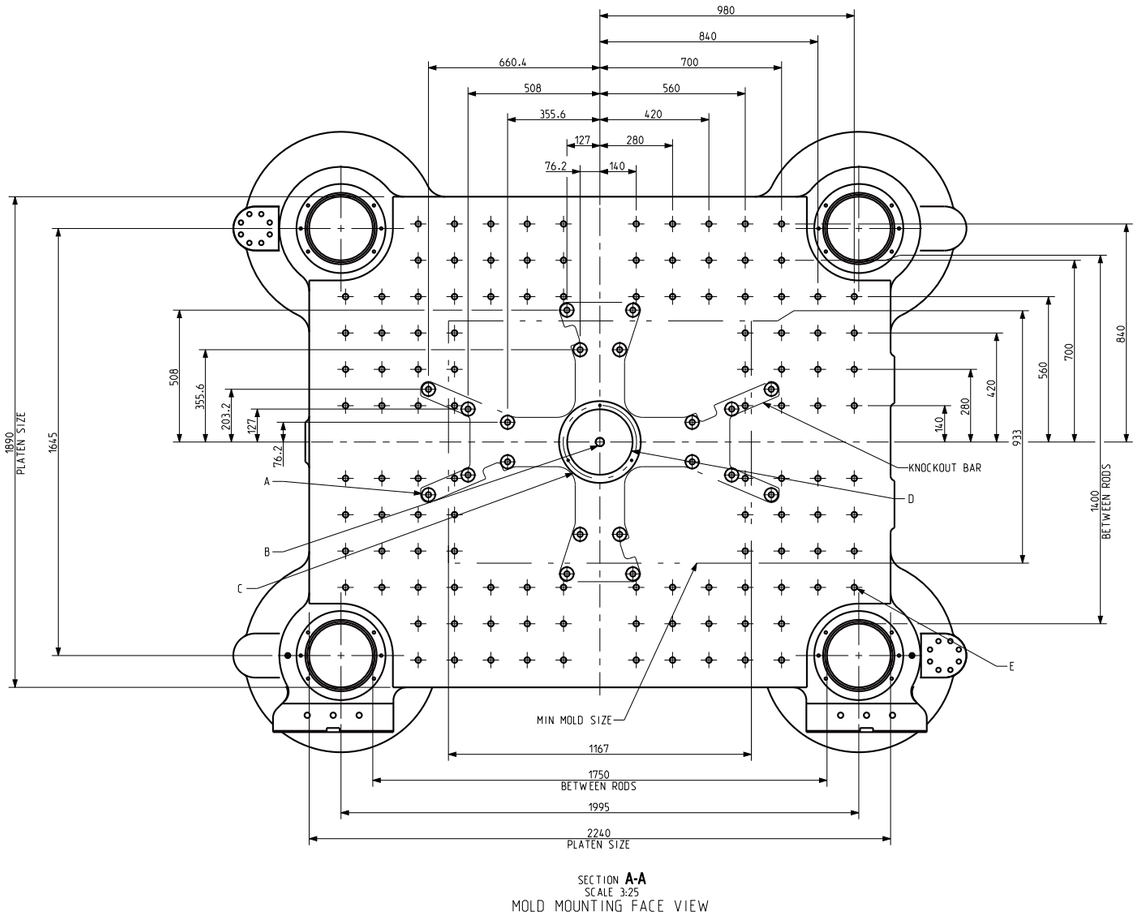
THE C-SERIES

TONNAGE: 1500 Metric

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

Frame Sizes:
6610, 10100, 13500, 16000, 23000

TECHNICAL SPECIFICATIONS



SECTION **A-A**
SCALE 1:25
MOLD MOUNTING FACE VIEW

ALL DIMENSIONS ARE IN MM

A (20x) Ø52 THRU PLATEN
(20x) 20.62 THRU KNOCKOUT BAR
(20x) 44.5x3 COUNTER BORE BACK SURFACE OF KNOCKOUT BAR
DIMENSIONS TYPICAL IN ALL QUADRANTS

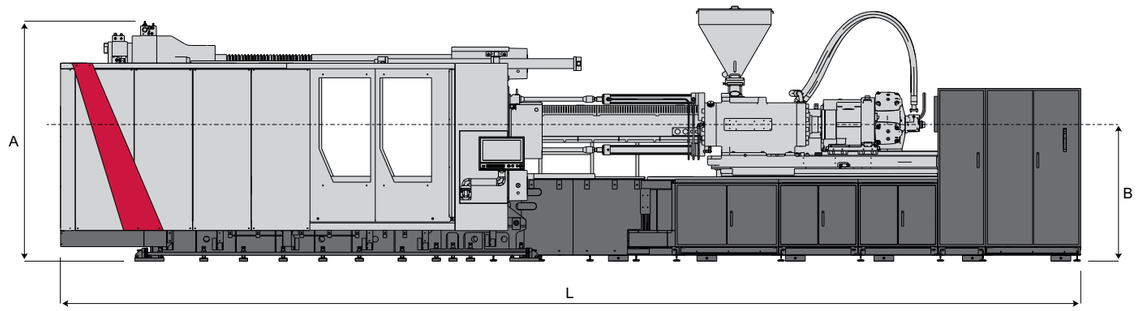
B M36x65 DEEP CENTER KNOCKOUT TAPPED HOLE

C Ø315 H8(+0.081)x25 DEEP
W/O DIE LOCATING RING ON MOVING & STATIONARY PLATEN

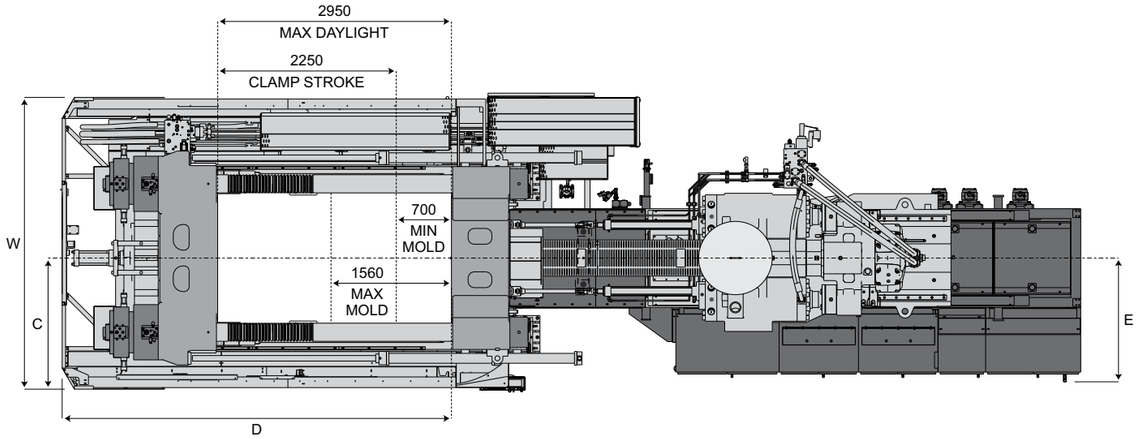
D Ø252 CENTER HOLE ON MOVING & STATIONARY PLATEN

E M24x48 DEEP
(116x) HOLES IN MOVING PLATEN
(116x) HOLES IN STATIONARY PLATEN
DIMENSION TYPICAL IN ALL QUADRANTS

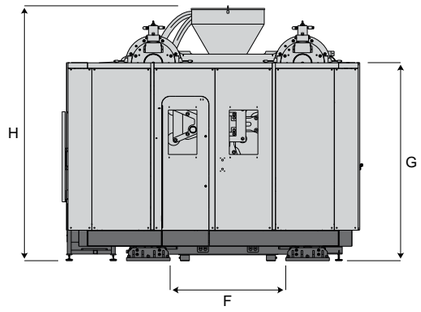
FRONT VIEW



TOP VIEW



CLAMP END

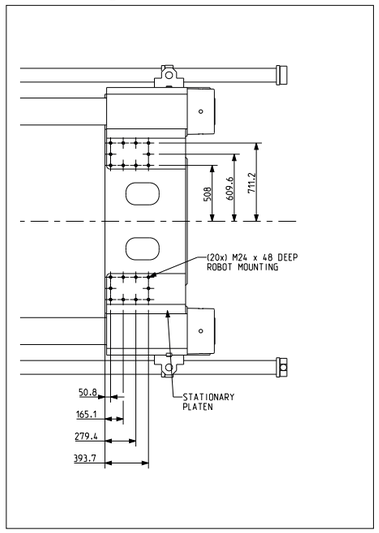


Dimensions (mm)

	6610 Frame	10100 Frame	13500 Frame	16000 Frame	23000 Frame
L	11953	11953	11953	11953	12873
W	3826	3826	3826	3826	3826
H	2981*	3260	3272	3272	3307
A	3187	3187	3187	3187	3187
B	1805	1805	1805	1805	1805
C	1731	1731	1731	1731	1731
D	4913	4913	4913	4913	4913
E	1568	1568	1568	1568	1568
F	1571	1571	1571	1571	1571
G	2508	2508	2508	2508	2508

* HEIGHT FOR 6610 FRAME SHOULD BE 3187 MM SINCE THE CLAMP IS HIGHER THAN HOPPER IN THIS FRAME

Robot Mounting Details



THE C-SERIES

TONNAGE: 1700 Metric

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

Frame Sizes:
10100, 13500, 16000, 23000

TECHNICAL SPECIFICATIONS

C-SERIES 1700		10100 Frame			13500 Frame			16000 Frame			23000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications													
Injection Capacity, Maximum GPPS	gms	4185	5064	6539	5507	7112	8295	6330	8174	10253	9341	11718	15305
Screw Diameter	mm	100	110	125	110	125	135	110	125	140	125	140	160
L/D Ratio	L/D	25.0	22.7	20.0	24.5	21.6	20.0	25.7	22.6	20.0	25.8	23.0	20.0
Theoretical Displacement	cm^3	4398	5321	6872	5797	7486	8731	6652	8590	10775	9817	12315	16084
Maximum Injection Pressure	bar	2290	1890	1462	2106	1798	1542	2345	1890	1510	2207	1897	1448
Maximum Injection Pressure with Regen	bar	2037	1683	1304	1848	1578	1353	2103	1694	1350	1940	1657	1269
Injection Rate **(STD PKG)- 136 kW**	cm^3/sec	832	1006	1299	904	1167	1362	779	1006	1261	770	966	1261
Injection Velocity **(STD PKG)- 136 kW**	mm/sec	107			95			81			64		
Injection Rate with Regen **(STD PKG) - 136 kW**	cm^3/sec	935	1131	1460	1030	1330	1552	870	1124	1410	881	1105	1443
Injection Velocity with Regen **(STD PKG) - 136 kW**	mm/sec	119			108			92			72		
Injection Rate **(INCR. PKG)- 165 kW**	cm^3/sec	999	1209	1562	1086	1403	1636	936	1208	1516	925	1161	1516
Injection Velocity **(INCR. PKG)- 165 kW**	mm/sec	127			114			99			76		
Injection Rate with Regen **(INCR. PKG) - 165 kW**	cm^3/sec	1123	1359	1755	1238	1599	1865	1046	1350	1694	1058	1328	1734
Injection Velocity with Regen **(INCR. PKG) - 165 kW**	mm/sec	143			130			110			86		
Injection Rate **(PERF. PKG)- 191 kW**	cm^3/sec	1165	1409	1820	1266	1635	1907	1091	1408	1767	1078	1353	1767
Injection Vleocity **(PERF. PKG)- 191 kW**	mm/sec	147			133			114			89		
Injection Rate with Regen **(PERF. PKG) - 191 kW**	cm^3/sec	1309	1584	2045	1443	1863	2173	1219	1574	1974	1234	1547	2021
Injection Velocity with Regen **(PERF. PKG) - 191 kW**	mm/sec	167			152			128			101		
Screw Stroke	mm	560			610			700			800		
Back Pressure Limit	bar	34.5			34.5			34.5			34.5		
Screw Speed Maximum **(STD PKG) - 136 kW**	rpm	180	174	154	142	142	142	95			83		
Screw Speed Maximum **(INCR. PKG) - 165 kW**	rpm	180	174	154	170	153	142	114			100		
Screw Speed Maximum **(PERF. PKG) - 191 kW**	rpm	180	174	154	170	153	142	130			116		
Torque at Screw	Nm	9295			11511			17871			21014		
	bar	169											
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 136 kW**	gm/sec	151	185	218	152	201	239	101	134	174	117	153	214
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 165 kW**	gm/sec	151	185	218	181	217	240	122	162	210	142	185	259
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 191 kW**	gm/sec	151	185	218	181	217	240	139	184	240	164	213	298
Number of Pyrometers (Barrel/Nozzle)	qty	6+1											
Total Heat Capacity	kW	64.5			65.0			65.0			92.5		
Nozzle Holding Force	kN	112											

C-SERIES 1700		10100 Frame			13500 Frame			16000 Frame			23000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp													
Clamping Force	kN	17000											
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	464 / 1190											
Clamp Stroke	mm	2700											
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	825 / 825 / 980											
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	767 / 767 / 911											
Ejector Force	kN	300											
Maximum Ejector Stroke	mm	300											
Mold Protect Pressure	bar	103.4											
Maximum Daylight	mm	3400											
Min/Max Mold Thickness	mm	700 / 1600											
Maximum Mold Weight (50% per Platen)	kg	43000											
Platen Size (H × V)	mm	2370 x 1935											
Distance Between Tie Rods (H x V)	mm	1850 x 1415											
Tie Rod Diameter	mm	260											
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	6.5 / 6.5 / 5.6											
Diagonal Tiebar Distance	mm	2434											
Mold Locating Ring	mm	250											
General - STD Package													
Hydraulic System Pressure	bar	230											
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 136 kW**	mm	12482 x 4061.4 x 3283			12482 x 4061.4 x 3283			12482 x 4061.4 x 3283			13402 x 4061.4 x 3330		
Machine Weight (with oil) **(STD PKG) - 136 kW**	kg	82960			85027			85936			91634		
Core Pull **(STD PKG) - 136 kW**	L/min	151											
Total Connected Load **(STD PKG) - 136 kW**	kW	200.5			201			201			228.5		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 165 kW**	mm	12482 x 4061.4 x 3283			12482 x 4061.4 x 3283			12482 x 4061.4 x 3283			13402 x 4061.4 x 3330		
Machine Weight (with oil) **(INCR. PKG) - 165 kW**	kg	82960			85027			85936			91634		
Core Pull **(INCR. PKG) - 165 kW**	L/min	246											
Total Connected Load **(INCR. PKG) - 165 kW**	kW	229.5			230			230			257.5		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 191 kW**	mm	13402 x 4061.4 x 3283			13402 x 4061.4 x 3283			13402 x 4061.4 x 3283			13402 x 4061.4 x 3330		
Machine Weight (with oil) **(PERF. PKG) - 191 kW**	kg	83931			85998			87309			91634		
Core Pull **(PERF. PKG) - 191 kW**	L/min	246											
Total Connected Load **(PERF. PKG) - 191 kW**	kW	255.5			256			256			283.5		
Total Oil Reservoir Capacity	L	1742									2234		
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.

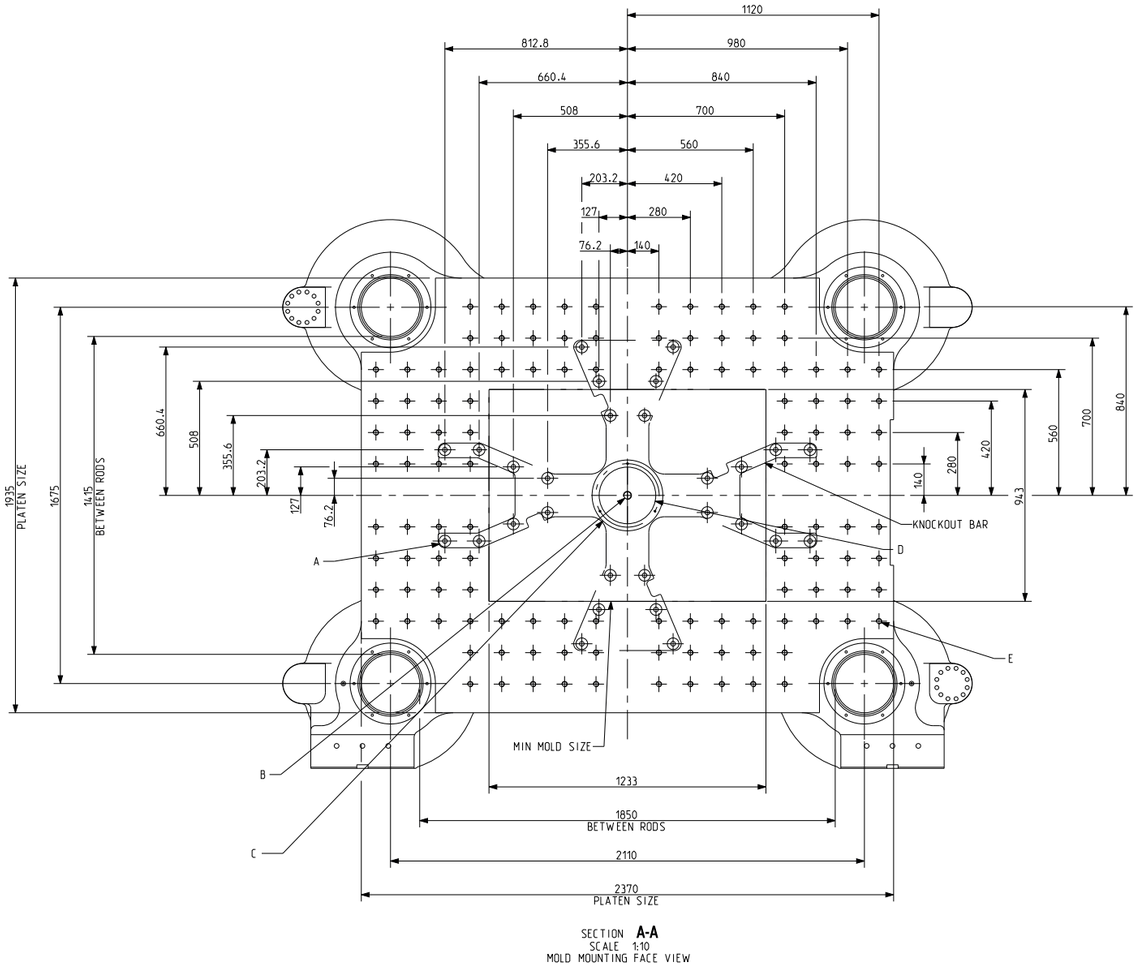
THE C-SERIES

TONNAGE: 1700 Metric

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

Frame Sizes:
10100, 13500, 16000, 23000

TECHNICAL SPECIFICATIONS



SECTION **A-A**
SCALE 1:10
MOLD MOUNTING FACE VIEW

ALL DIMENSIONS ARE IN MM

A (28x) Ø52 THRU PLATEN
(28x) 20.6 THRU KNOCKOUT BAR
(28x) 44.5x3 COUNTER BORE BACK SURFACE OF KNOCKOUT BAR
DIMENSIONS TYPICAL IN ALL QUADRANTS

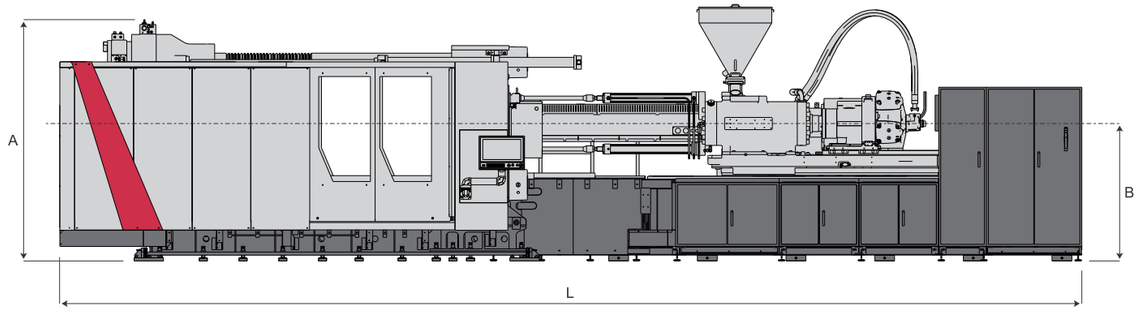
B M36x65 DEEP CENTER KNOCKOUT TAPPED HOLE

C Ø315 H8(+0.1)x25 DEEP
W/O DIE LOCATING RING ON MOVING & STATIONARY PLATEN

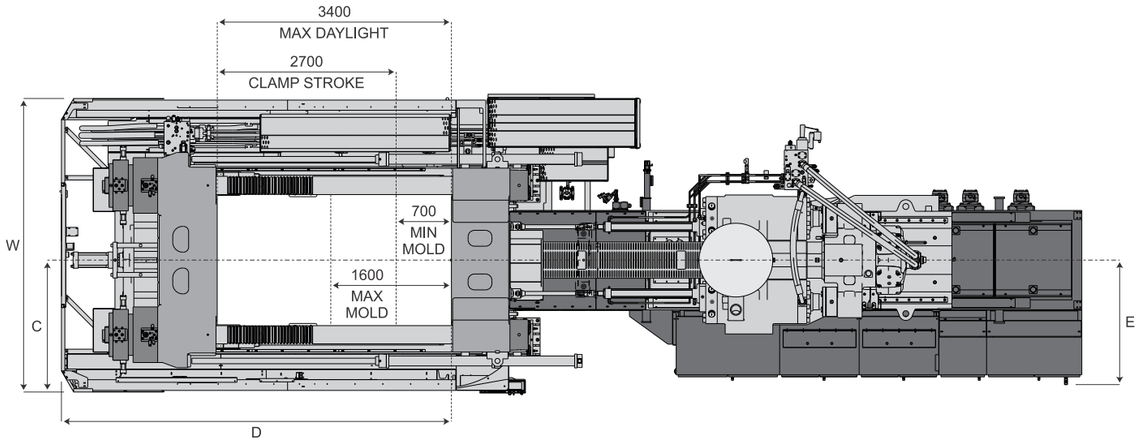
D Ø252 CENTER HOLE ON MOVING & STATIONARY PLATEN

E M24x48 DEEP
(120x) HOLES IN MOVING PLATEN
(120x) HOLES IN STATIONARY PLATEN
DIMENSION TYPICAL IN ALL QUADRANTS

FRONT VIEW



TOP VIEW



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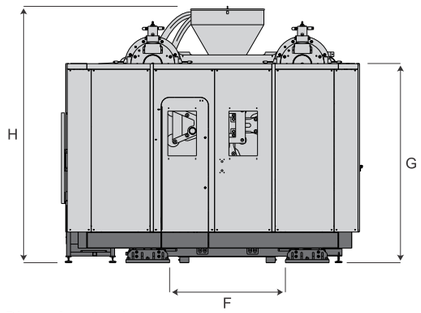
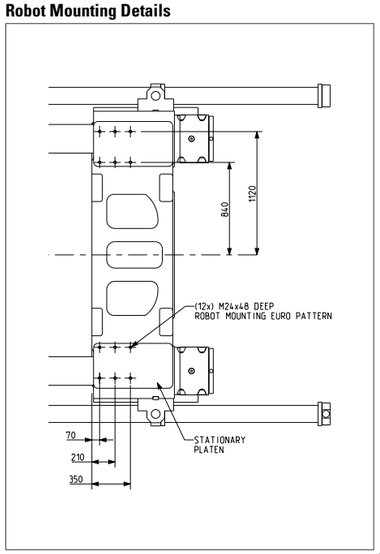


Dimensions (mm)

	10100 Frame 136 / 165 / (191) kW	13500 Frame 136 / 165 / (191) kW	16000 Frame 136 / 165 / (191) kW	23000 Frame 136 / 165 / 191 kW
L	12483 / (13403)	12483 / (13403)	12483 / (13403)	13403
W	4024	4024	4024	4024
H	3288	3318	3300	3335
A	3247	3247	3247	3247
B	1833	1833	1833	1833
C	1784	1784	1784	1784
D	5443	5443	5443	5443
E	1568	1568	1568	1568
F	1696	1696	1696	1696
G	2508	2508	2508	2508

Robot Mounting Details



THE C-SERIES

TONNAGE: 2000 Metric

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

Frame Sizes:
10100, 13500, 16000, 23000

TECHNICAL SPECIFICATIONS

C-SERIES 2000		10100 Frame			13500 Frame			16000 Frame			23000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications													
Injection Capacity, Maximum GPPS	gms	4185	5064	6539	5507	7112	8295	6330	8174	10253	9341	11718	15305
Screw Diameter	mm	100	110	125	110	125	135	110	125	140	125	140	160
L/D Ratio	L/D	25.0	22.7	20.0	24.5	21.6	20.0	25.7	22.6	20.0	25.8	23.0	20.0
Theoretical Displacement	cm^3	4398	5321	6872	5797	7486	8731	6652	8590	10775	9817	12315	16084
Maximum Injection Pressure	bar	2290	1890	1462	2106	1798	1542	2345	1890	1510	2207	1897	1448
Maximum Injection Pressure with Regen	bar	2037	1683	1304	1848	1578	1353	2103	1694	1350	1940	1657	1269
Injection Rate **(STD PKG)- 136 kW**	cm^3/sec	832	1006	1299	904	1167	1362	779	1006	1261	770	966	1261
Injection Velocity **(STD PKG)- 136 kW**	mm/sec	107			95			81			64		
Injection Rate with Regen **(STD PKG) - 136 kW**	cm^3/sec	935	1131	1460	1030	1330	1552	870	1124	1410	881	1105	1443
Injection Velocity with Regen **(STD PKG) - 136 kW**	mm/sec	119			108			92			72		
Injection Rate **(INCR. PKG)- 165 kW**	cm^3/sec	999	1209	1562	1086	1403	1636	936	1208	1516	925	1161	1516
Injection Velocity **(INCR. PKG)- 165 kW**	mm/sec	127			114			99			76		
Injection Rate with Regen **(INCR. PKG) - 165 kW**	cm^3/sec	1123	1359	1755	1238	1599	1865	1046	1350	1694	1058	1328	1734
Injection Velocity with Regen **(INCR. PKG) - 165 kW**	mm/sec	143			130			110			86		
Injection Rate **(PERF. PKG)- 191 kW**	cm^3/sec	1165	1409	1820	1266	1635	1907	1091	1408	1767	1078	1353	1767
Injection Vleocity **(PERF. PKG)- 191 kW**	mm/sec	147			133			114			89		
Injection Rate with Regen **(PERF. PKG) - 191 kW**	cm^3/sec	1309	1584	2045	1443	1863	2173	1219	1574	1974	1234	1547	2021
Injection Velocity with Regen **(PERF. PKG) - 191 kW**	mm/sec	167			152			128			101		
Screw Stroke	mm	560			610			700			800		
Back Pressure Limit	bar	34.5			34.5			34.5			34.5		
Screw Speed Maximum **(STD PKG) - 136 kW**	rpm	180	174	154	142	142	142	95			83		
Screw Speed Maximum **(INCR. PKG) - 165 kW**	rpm	180	174	154	170	153	142	114			100		
Screw Speed Maximum **(PERF. PKG) - 191 kW**	rpm	180	174	154	170	153	142	130			116		
Torque at Screw	Nm	9295			11511			17871			21014		
	bar	169											
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 136 kW**	gm/sec	151	185	218	152	201	239	101	134	174	117	153	214
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 165 kW**	gm/sec	151	185	218	181	217	240	122	162	210	142	185	259
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 191 kW**	gm/sec	151	185	218	181	217	240	139	184	240	164	213	298
Number of Pyrometers (Barrel/Nozzle)	qty	6+1											
Total Heat Capacity	kW	64.5			65.0			65.0			92.5		
Nozzle Holding Force	kN	112											

C-SERIES 2000		10100 Frame			13500 Frame			16000 Frame			23000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp													
Clamping Force	kN	20000											
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	464 / 1400											
Clamp Stroke	mm	3000											
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	825 / 825 / 980											
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	767 / 767 / 911											
Ejector Force	kN	400											
Maximum Ejector Stroke	mm	400											
Mold Protect Pressure	bar	103.4											
Maximum Daylight	mm	3700											
Min/Max Mold Thickness	mm	700 / 1900											
Maximum Mold Weight (50% per Platen)	kg	55000											
Platen Size (H × V)	mm	2430 x 2180											
Distance Between Tie Rods (H x V)	mm	1870 x 1620											
Tie Rod Diameter	mm	280											
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	7.1 / 7.1 / 6.3											
Diagonal Tiebar Distance	mm	2589											
Mold Locating Ring	mm	315											
General - STD Package													
Hydraulic System Pressure	bar	230											
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 136 kW**	mm	13337 x 4577 x 3735			13337 x 4577 x 3735			13337 x 4577 x 3735			14257 x 4577 x 3735		
Machine Weight (with oil) **(STD PKG) - 136 kW**	kg	98020			100220			101409			106733		
Core Pull **(STD PKG) - 136 kW**	L/min	151											
Total Connected Load **(STD PKG) - 136 kW**	kW	200.5			201			201			228.5		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 165 kW**	mm	13337 x 4577 x 3735			13337 x 4577 x 3735			13337 x 4577 x 3735			14257 x 4577 x 3735		
Machine Weight (with oil) **(INCR. PKG) - 165 kW**	kg	98020			100220			101409			106733		
Core Pull **(INCR. PKG) - 165 kW**	L/min	246											
Total Connected Load **(INCR. PKG) - 165 kW**	kW	229.5			230			230			257.5		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 191 kW**	mm	14257 x 4577 x 3735			14257 x 4577 x 3735			14257 x 4577 x 3735			14257 x 4577 x 3735		
Machine Weight (with oil) **(PERF. PKG) - 191 kW**	kg	98961			101191			102380			106733		
Core Pull **(PERF. PKG) - 191 kW**	L/min	246											
Total Connected Load **(PERF. PKG) - 191 kW**	kW	255.5			256			256			283.5		
Total Oil Reservoir Capacity	L	1742									2234		
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.

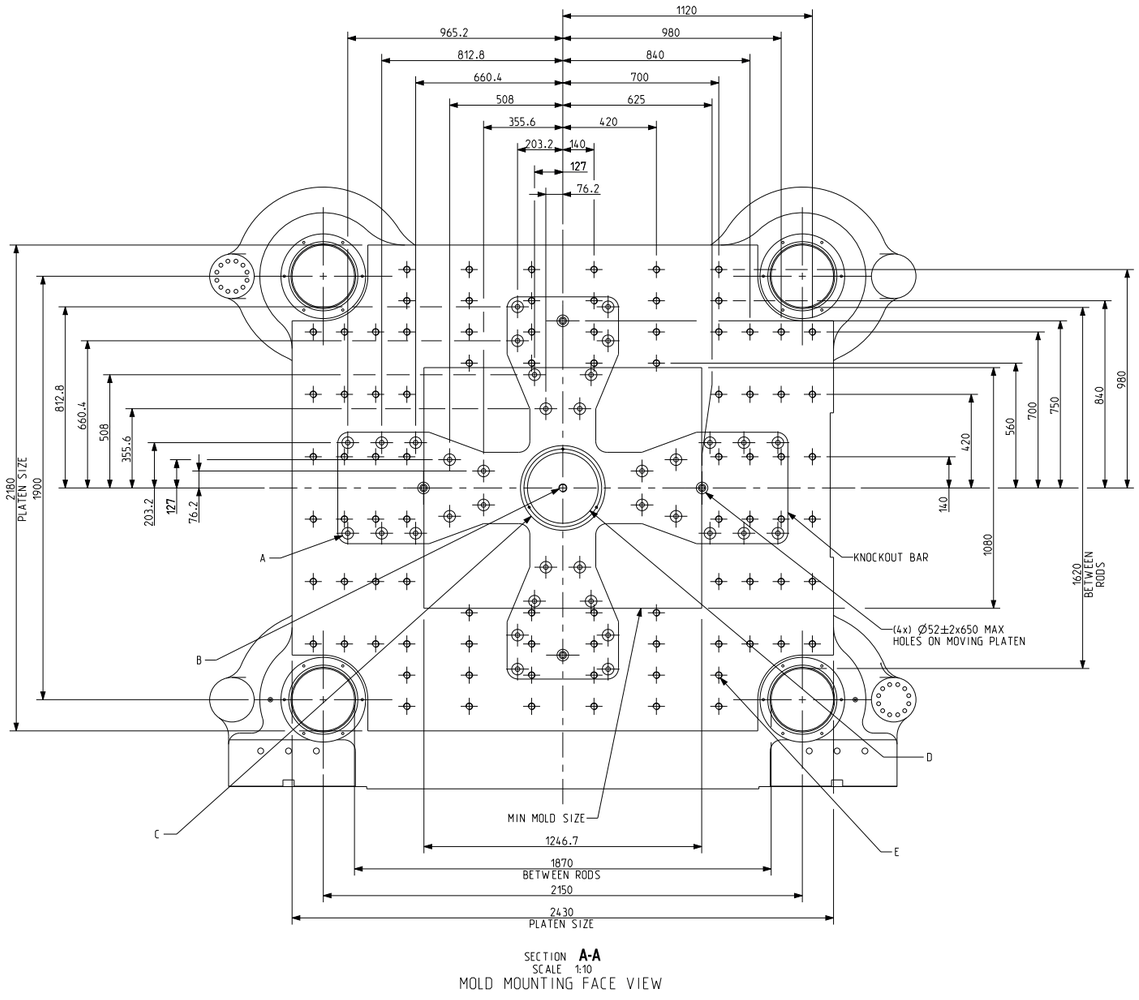
THE C-SERIES

TONNAGE: 2000 Metric

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

Frame Sizes:
10100, 13500, 16000, 23000

TECHNICAL SPECIFICATIONS



SECTION **A-A**
SCALE 1:10
MOLD MOUNTING FACE VIEW

ALL DIMENSIONS ARE IN MM

A (36x) Ø52 THRU PLATEN
(36x) 20.64 THRU KNOCKOUT BAR
(36x) 60x4 COUNTER BORE BACK SURFACE OF KNOCKOUT BAR
DIMENSIONS TYPICAL IN ALL QUADRANTS

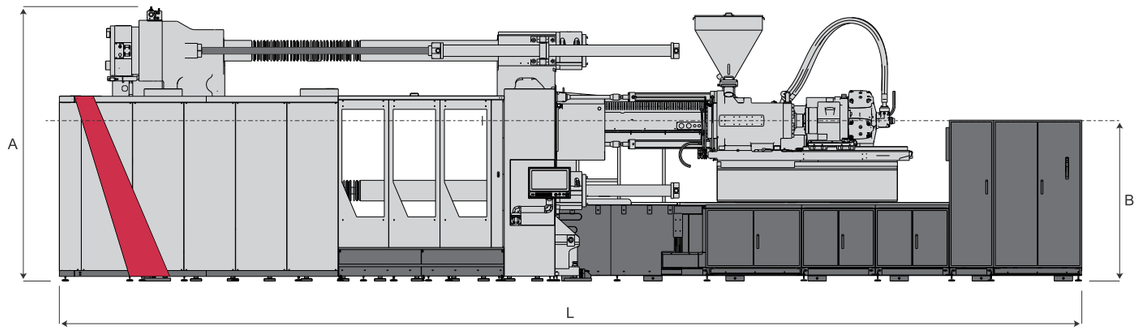
B M36x65 DEEP CENTER KNOCKOUT TAPPED HOLE

C Ø380 H8(+0.1)x25 DEEP
W/O DIE LOCATING RING ON MOVING & STATIONARY PLATEN

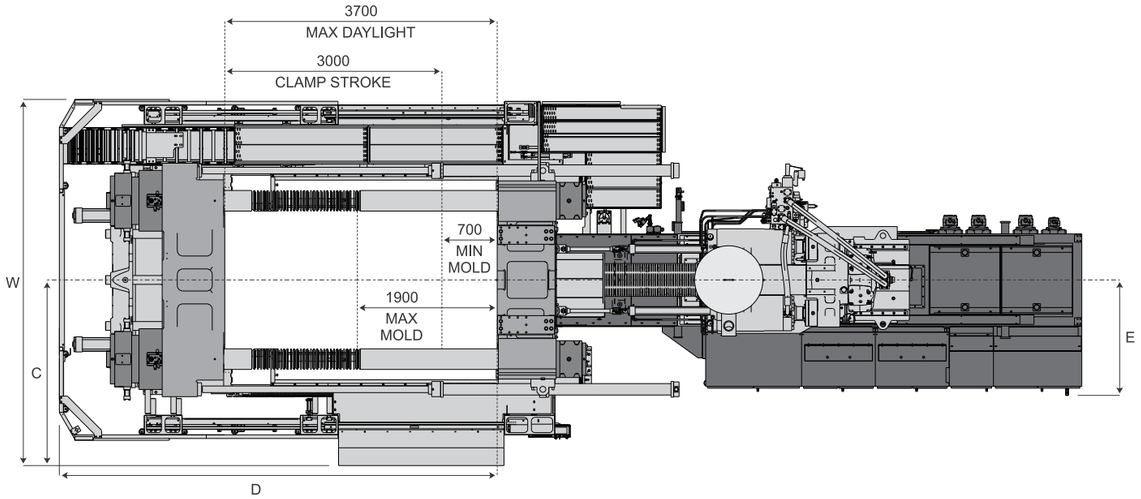
D Ø317 CENTER HOLE ON MOVING & STATIONARY PLATEN

E M30x60 DEEP
(88x) HOLES IN MOVING PLATEN
(88x) HOLES IN STATIONARY PLATEN
DIMENSION TYPICAL IN ALL QUADRANTS

FRONT VIEW



TOP VIEW



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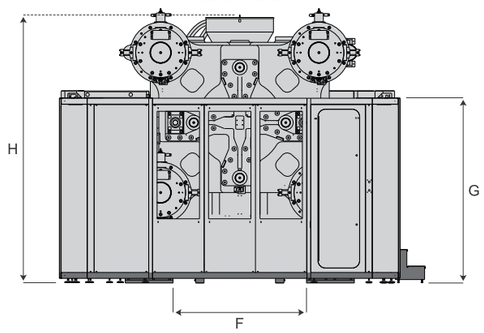
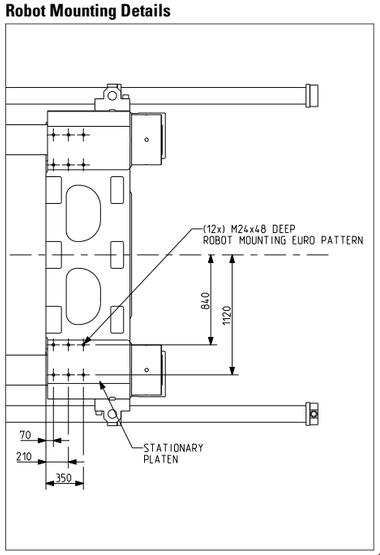


Dimensions (mm)

	10100 Frame 136 / 165 / (191) kW	13500 Frame 136 / 165 / (191) kW	16000 Frame 136 / 165 / (191) kW	23000 Frame 136 / 165 / 191 kW
L	13337 / (14257)	13337 / (14257)	13337 / (14257)	14257
W	4920	4920	4920	4920
H	3633*	3663*	3645*	3680*
A	3737	3737	3737	3737
B	2178	2178	2178	2178
C	2411	2411	2411	2411
D	6297	6297	6297	6297
E	1568	1568	1568	1568
F	1590	1590	1590	1590
G	2508	2508	2508	2508

* HEIGHT FOR FRAME SHOULD BE 3737 MM SINCE THE CLAMP IS HIGHER THAN HOPPER

Robot Mounting Details



THE C-SERIES

TONNAGE: 2300 Metric

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

Frame Sizes:
10100, 13500, 16000, 23000, 34000

TECHNICAL SPECIFICATIONS

C-SERIES 2300		10100 Frame			13500 Frame			16000 Frame			23000 Frame			34000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications																
Injection Capacity, Maximum GPPS	gms	4185	5064	6539	5507	7112	8295	6330	8174	10253	9341	11718	15305	13182	17218	21791
Screw Diameter	mm	100	110	125	110	125	135	110	125	140	125	140	160	140	160	180
L/D Ratio	L/D	25.0	22.7	20.0	24.5	21.6	20.0	25.7	22.6	20.0	25.8	23.0	20.0	25.9	22.6	20.0
Theoretical Displacement	cm^3	4398	5321	6872	5797	7486	8731	6652	8590	10775	9817	12315	16084	13854	18095	22902
Maximum Injection Pressure	bar	2290	1890	1462	2106	1798	1542	2345	1890	1510	2207	1897	1448	2083	1897	1497
Maximum Injection Pressure with Regen	bar	2037	1683	1304	1848	1578	1353	2103	1694	1350	1940	1657	1269	1820	1661	1312
Injection Rate **(STD PKG)- 165 kW**	cm^3/sec	999	1209	1562	1086	1403	1636	936	1208	1516	925	1161	1516	917	1198	1516
Injection Velocity **(STD PKG)- 165 kW**	mm/sec	127			114			99			76			58		
Injection Rate with Regen **(STD PKG) - 165 kW**	cm^3/sec	1123	1359	1755	1238	1599	1865	1046	1350	1694	1058	1328	1734	1048	1368	1732
Injection Velocity with Regen **(STD PKG) - 165 kW**	mm/sec	143			130			110			86			68		
Injection Rate **(INCR. PKG)- 191 kW**	cm^3/sec	1165	1409	1820	1266	1635	1907	1091	1408	1767	1078	1353	1767	1069	1396	1767
Injection Velocity **(INCR. PKG)- 191 kW**	mm/sec	147			133			114			89			69		
Injection Rate with Regen **(INCR. PKG) - 191 kW**	cm^3/sec	1309	1584	2045	1443	1863	2173	1219	1574	1974	1234	1547	2021	1221	1595	2019
Injection Velocity with Regen **(INCR. PKG) - 191 kW**	mm/sec	167			152			128			101			79		
Injection Rate **(PERF. PKG)- 220 kW**	cm^3/sec	1332	1612	2082	1448	1870	2182	1248	1611	2021	1234	1547	2021	1223	1597	2021
Injection Vleocity **(PERF. PKG)- 220 kW**	mm/sec	170			152			132			102			79		
Injection Rate with Regen **(PERF. PKG) - 220 kW**	cm^3/sec	1498	1812	2340	1651	2131	2486	1394	1801	2259	1411	1770	2312	1397	1825	2309
Injection Velocity with Regen **(PERF. PKG) - 220 kW**	mm/sec	191			174			147			115			91		
Screw Stroke	mm	560			610			700			800			900		
Back Pressure Limit	bar	34.5			34.5			34.5			34.5			34.5		
Screw Speed Maximum **(STD PKG) - 165 kW**	rpm	180	174	154	170	153	142	114			100			78		
Screw Speed Maximum **(INCR. PKG) - 191 kW**	rpm	180	174	154	170	153	142	130			116			90		
Screw Speed Maximum **(PERF. PKG) - 220 kW**	rpm	180	174	154	170	153	142	130			130	130	119	103		
Torque at Screw	Nm	9295			11511			17871			21014			25284		
	bar	169														
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 165 kW**	gm/sec	151	185	218	181	217	240	122	162	210	142	185	259	143	200	296
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 191 kW**	gm/sec	151	185	218	181	217	240	139	184	240	164	213	298	167	233	345
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 220 kW**	gm/sec	151	185	218	181	217	240	139	184	240	184	240	308	191	267	394
Number of Pyrometers (Barrel/Nozzle)	qty	6+1												7+1		
Total Heat Capacity	kW	64.5			65.0			65.0			92.5			111.5		
Nozzle Holding Force	kN	112														

C-SERIES 2300		10100 Frame			13500 Frame			16000 Frame			23000 Frame			34000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp																
Clamping Force	kN	23000														
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	464 / 1610														
Clamp Stroke	mm	3000														
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	825 / 1030 / 1239														
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	767 / 957 / 1150														
Ejector Force	kN	400														
Maximum Ejector Stroke	mm	400														
Mold Protect Pressure	bar	103.4														
Maximum Daylight	mm	3800														
Min/Max Mold Thickness	mm	800 / 1900														
Maximum Mold Weight (50% per Platen)	kg	60000														
Platen Size (H × V)	mm	2630 x 2230														
Distance Between Tie Rods (H x V)	mm	2020 x 1620														
Tie Rod Diameter	mm	305														
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	7.5 / 6.6 / 6.0														
Diagonal Tiebar Distance	mm	2713														
Mold Locating Ring	mm	315														
General - STD Package																
Hydraulic System Pressure	bar	230														
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 165 kW**	mm	13402 x 4751.5 x 3782												14322 x 4751.5 x 3782		15497 x 4751.5 x 3782
Machine Weight (with oil) **(STD PKG) - 165 kW**	kg	98370			99977			101785			107195			121895		
Core Pull **(STD PKG) - 165 kW**	L/min	246														
Total Connected Load **(STD PKG) - 165 kW**	kW	229.5			230			230			257.5			276.5		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 191 kW**	mm	14322 x 4751.5 x 3782												14322 x 4751.5 x 3782		15497 x 4751.5 x 3782
Machine Weight (with oil) **(INCR. PKG) - 191 kW**	kg	99427			101035			102842			107195			121895		
Core Pull **(INCR. PKG) - 191 kW**	L/min	246														
Total Connected Load **(INCR. PKG) - 191 kW**	kW	255.5			256			256			283.5			302.5		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 220 kW**	mm	14322 x 4751.5 x 3782												14322 x 4751.5 x 3782		15497 x 4751.5 x 3782
Machine Weight (with oil) **(PERF. PKG) - 220 kW**	kg	99427			101035			102842			107195			121895		
Core Pull **(PERF. PKG) - 220 kW**	L/min	246														
Total Connected Load **(PERF. PKG) - 220 kW**	kW	284.5			285			285			312.5			331.5		
Total Oil Reservoir Capacity	L	1742 (2234)												2234		3104
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.

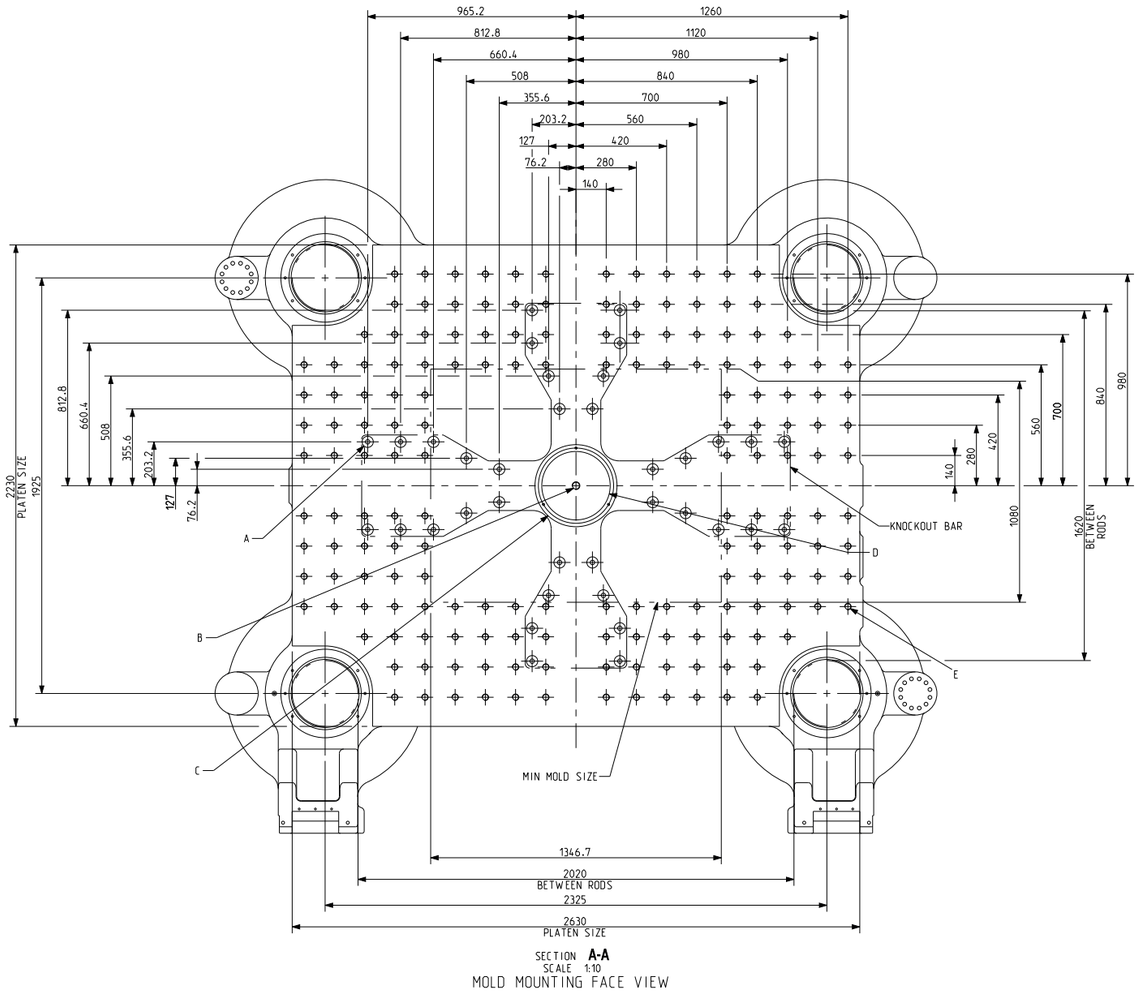
THE C-SERIES

TONNAGE: 2300 Metric

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

Frame Sizes:
10100, 13500, 16000, 23000, 34000

TECHNICAL SPECIFICATIONS



ALL DIMENSIONS ARE IN MM

A (36x) Ø52 THRU PLATEN
(36x) 20.62 THRU KNOCKOUT BAR
(36x) 44.5x3 COUNTER BORE BACK SURFACE OF KNOCKOUT BAR
DIMENSIONS TYPICAL IN ALL QUADRANTS

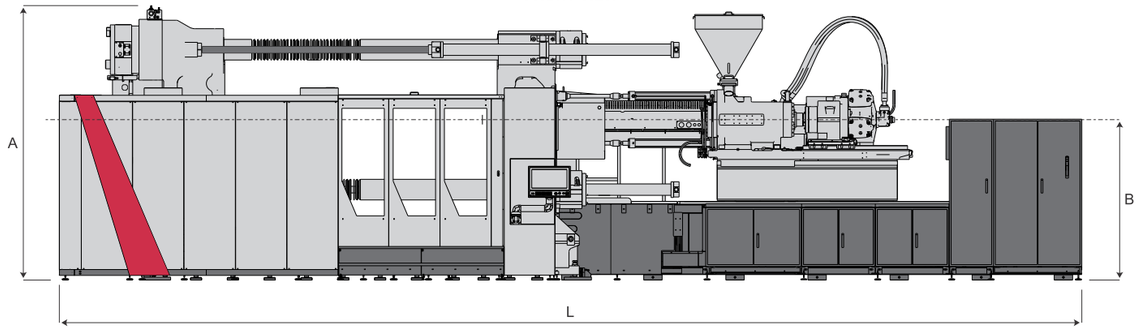
B M36x65 DEEP CENTER KNOCKOUT TAPPED HOLE

C Ø380 H8(+0.089)x25 DEEP
W/O DIE LOCATING RING ON MOVING & STATIONARY PLATEN

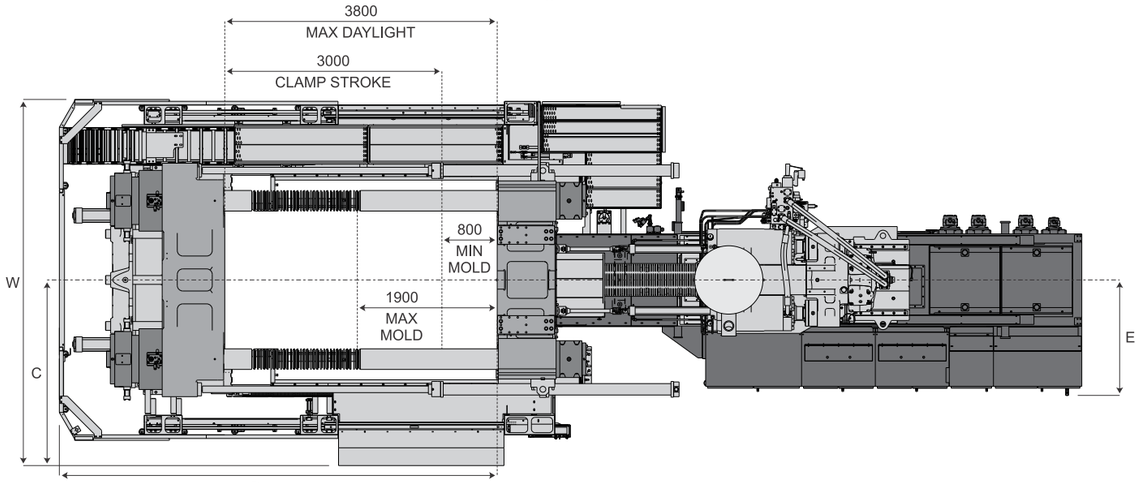
D Ø317 CENTER HOLE ON MOVING & STATIONARY PLATEN

E M30x60 DEEP
(172x) HOLES IN MOVING PLATEN
(172x) HOLES IN STATIONARY PLATEN
DIMENSION TYPICAL IN ALL QUADRANTS

FRONT VIEW



TOP VIEW



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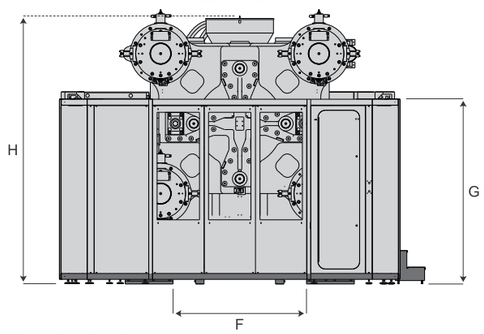
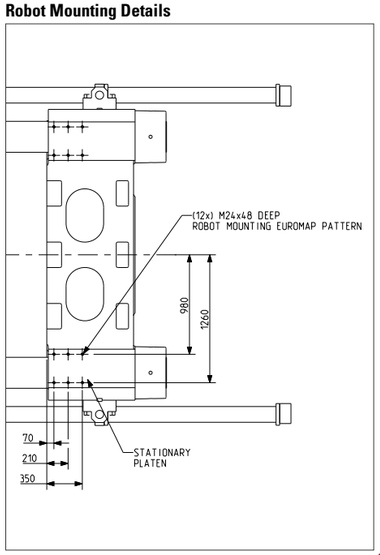


Dimensions (mm)

	10100 Frame (165) / 191 / 220 kW	13500 Frame (165) / 191 / 220 kW	16000 Frame (165) / 191 / 220 kW	23000 Frame 165 / 191 / 220 kW	34000 Frame 165 / 191 / 220 kW
L	(13422) / 14342	(13422) / 14342	(13422) / 14342	14342	15517
W	5095	5095	5095	5095	5095
H	3633*	3645*	3645*	3680*	3750*
A	3782	3782	3782	3782	3782
B	2178	2178	2178	2178	2178
C	2498	2498	2498	2498	2498
D	6297	6297	6297	6297	6297
E	1568	1568	1568	1568	1800
F	1765	1765	1765	1765	1765
G	2510	2510	2510	2510	2510

* HEIGHT FOR FRAME SHOULD BE 3782 MM SINCE THE CLAMP IS HIGHER THAN HOPPER

Robot Mounting Details



THE C-SERIES

TONNAGE: 2700 Metric

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

Frame Sizes:
13500, 16000, 23000, 34000

TECHNICAL SPECIFICATIONS

C-SERIES 2700		13500 Frame			16000 Frame			23000 Frame			34000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications													
Injection Capacity, Maximum GPPS	gms	5507	7112	8295	6330	8174	10253	9341	11718	15305	13182	17218	21791
Screw Diameter	mm	110	125	135	110	125	140	125	140	160	140	160	180
L/D Ratio	L/D	24.5	21.6	20.0	25.7	22.6	20.0	25.8	23.0	20.0	25.9	22.6	20.0
Theoretical Displacement	cm^3	5797	7486	8731	6652	8590	10775	9817	12315	16084	13854	18095	22902
Maximum Injection Pressure	bar	2106	1798	1542	2345	1890	1510	2207	1897	1448	2083	1897	1497
Maximum Injection Pressure with Regen	bar	1848	1578	1353	2103	1694	1350	1940	1657	1269	1820	1661	1312
Injection Rate **(STD PKG)- 165 kW**	cm^3/sec	1086	1403	1636	936	1208	1516	925	1161	1516	917	1198	1516
Injection Velocity **(STD PKG)- 165 kW**	mm/sec	114			99			76			58		
Injection Rate with Regen **(STD PKG) - 165 kW**	cm^3/sec	1238	1599	1865	1046	1350	1694	1058	1328	1734	1048	1368	1732
Injection Velocity with Regen **(STD PKG) - 165 kW**	mm/sec	130			110			86			68		
Injection Rate **(INCR. PKG)- 191 kW**	cm^3/sec	1266	1635	1907	1091	1408	1767	1078	1353	1767	1069	1396	1767
Injection Velocity **(INCR. PKG)- 191 kW**	mm/sec	133			114			89			69		
Injection Rate with Regen **(INCR. PKG) - 191 kW**	cm^3/sec	1443	1863	2173	1219	1574	1974	1234	1547	2021	1221	1595	2019
Injection Velocity with Regen **(INCR. PKG) - 191 kW**	mm/sec	152			128			101			79		
Injection Rate **(PERF. PKG)- 220 kW**	cm^3/sec	1448	1870	2182	1248	1611	2021	1234	1547	2021	1223	1597	2021
Injection Vleocity **(PERF. PKG)- 220 kW**	mm/sec	152			132			102			79		
Injection Rate with Regen **(PERF. PKG) - 220 kW**	cm^3/sec	1651	2131	2486	1394	1801	2259	1411	1770	2312	1397	1825	2309
Injection Velocity with Regen **(PERF. PKG) - 220 kW**	mm/sec	174			147			115			91		
Screw Stroke	mm	610			700			800			900		
Back Pressure Limit	bar	34.5			34.5			34.5			34.5		
Screw Speed Maximum **(STD PKG) - 165 kW**	rpm	170	153	142	114			100			78		
Screw Speed Maximum **(INCR. PKG) - 191 kW**	rpm	170	153	142	130			116			90		
Screw Speed Maximum **(PERF. PKG) - 220 kW**	rpm	170	153	142	130			130	130	119	103		
Torque at Screw	Nm	11511			17871			21014			25284		
	bar	169											
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 165 kW**	gm/sec	181	217	240	122	162	210	142	185	259	143	200	296
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 191 kW**	gm/sec	181	217	240	139	184	240	164	213	298	167	233	345
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 220 kW**	gm/sec	181	217	240	139	184	240	184	240	308	191	267	394
Number of Pyrometers (Barrel/Nozzle)	qty	6+1									7+1		
Total Heat Capacity	kW	65.0			65.0			92.5			111.5		
Nozzle Holding Force	kN	112											

C-SERIES 2700		13500 Frame			16000 Frame			23000 Frame			34000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp													
Clamping Force	kN	27000											
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	582 / 1890											
Clamp Stroke	mm	3000											
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	647 / 807 / 970											
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	622 / 774 / 932											
Ejector Force (OPTIONAL)	kN	400											
Maximum Ejector Stroke (OPTIONAL)	mm	400											
Mold Protect Pressure	bar	103.4											
Maximum Daylight	mm	3800											
Min/Max Mold Thickness	mm	800 / 2000											
Maximum Mold Weight (50% per Platen)	kg	75000											
Platen Size (H × V)	mm	2845 x 2420											
Distance Between Tie Rods (H x V)	mm	2175 x 1750											
Tie Rod Diameter	mm	335											
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	9.0 / 7.7 / 6.9											
Diagonal Tiebar Distance	mm	2928											
Mold Locating Ring	mm	315											
General - STD Package													
Hydraulic System Pressure	bar	230											
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 165 kW**	mm	13672 x 5258.5 x 4094						14612 x 4915.5 x 4090			15797 x 4915.5 x 4094		
Machine Weight (with oil) **(STD PKG) - 165 kW**	kg	106019			108144			112068			128581		
Core Pull **(STD PKG) - 165 kW**	L/min	246											
Total Connected Load **(STD PKG) - 165 kW**	kW	230			230			257.5			276.5		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 191 kW**	mm	14592 x 5258.5 x 4094						14612 x 4915.5 x 4090			15797 x 4915.5 x 4094		
Machine Weight (with oil) **(INCR. PKG) - 191 kW**	kg	107077			109201			112068			128581		
Core Pull **(INCR. PKG) - 191 kW**	L/min	246											
Total Connected Load **(INCR. PKG) - 191 kW**	kW	256			256			283.5			302.5		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 220 kW**	mm	14592 x 5258.5 x 4094						14612 x 4915.5 x 4090			15797 x 4915.5 x 4094		
Machine Weight (with oil) **(PERF. PKG) - 220 kW**	kg	107077			109201			112068			128581		
Core Pull **(PERF. PKG) - 220 kW**	L/min	246											
Total Connected Load **(PERF. PKG) - 220 kW**	kW	285			285			312.5			331.5		
Total Oil Reservoir Capacity	L	1742 (2234)			1742 (2234)			2234			3104		
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.

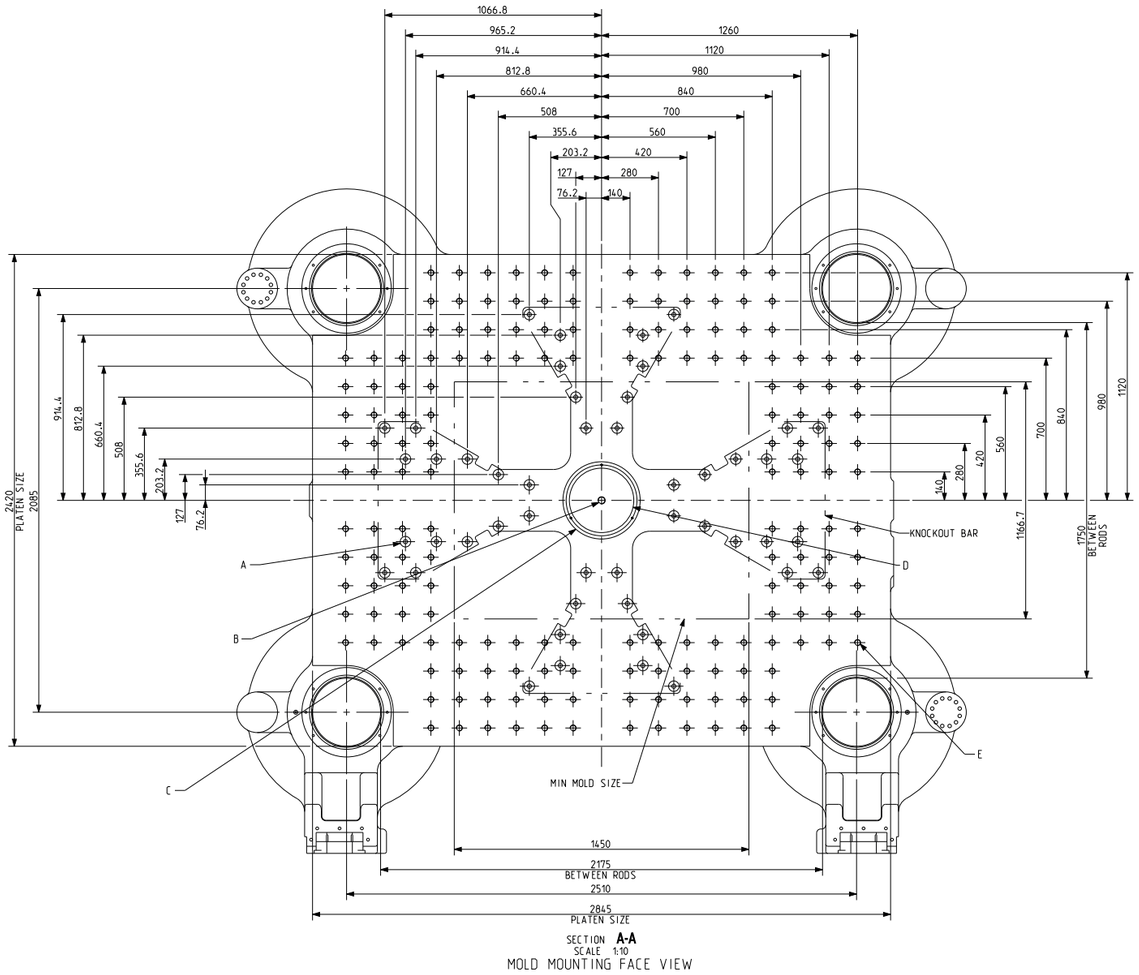
THE C-SERIES

TONNAGE: 2700 Metric

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

Frame Sizes:
13500, 16000, 23000, 34000

TECHNICAL SPECIFICATIONS



ALL DIMENSIONS ARE IN MM

A (48x) Ø52 THRU PLATEN
(48x) 20.6 THRU KNOCKOUT BAR
(48x) 44.5x3 COUNTER BORE BACK SURFACE OF KNOCKOUT BAR
DIMENSIONS TYPICAL IN ALL QUADRANTS

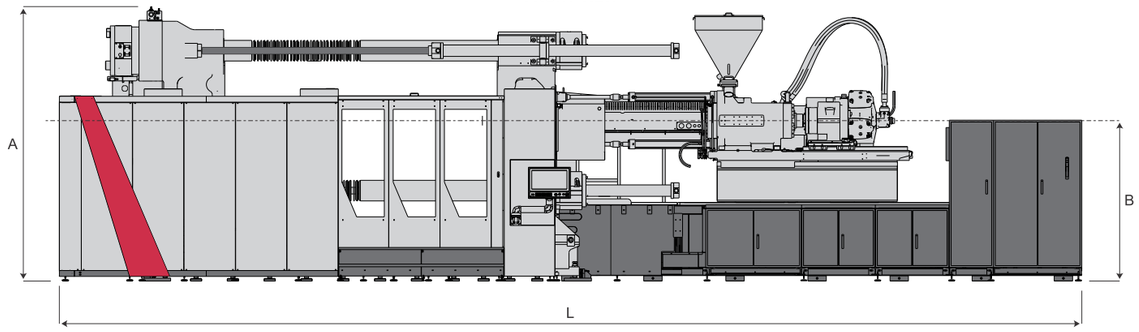
B M36x62 DEEP CENTER KNOCKOUT TAPPED HOLE

C Ø380 H8(+0.089)x DEEP
W/O DIE LOCATING RING ON MOVING & STATIONARY PLATEN

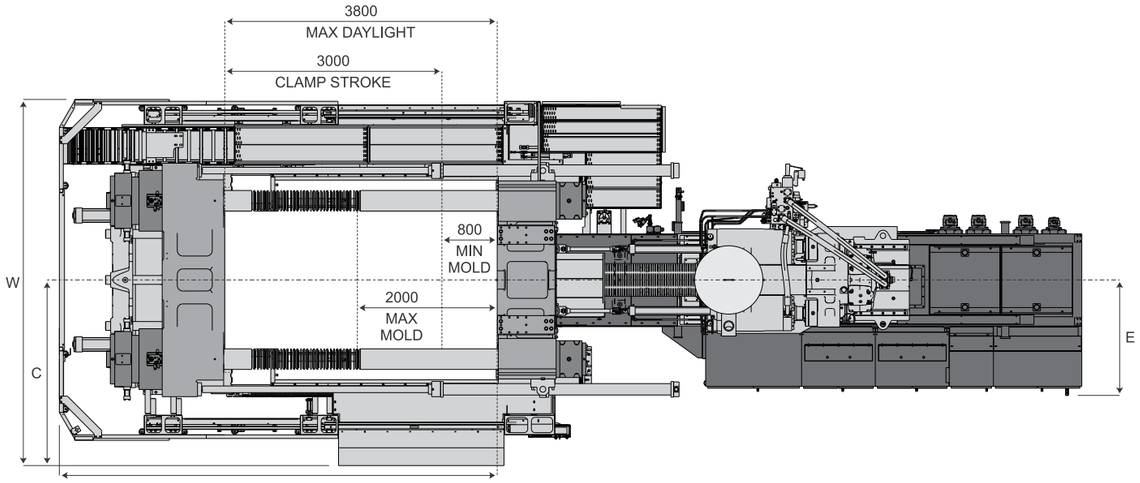
D Ø317 CENTER HOLE ON MOVING & STATIONARY PLATEN

E M30x60 DEEP
(172x) HOLES IN MOVING PLATEN
(172x) HOLES IN STATIONARY PLATEN
DIMENSION TYPICAL IN ALL QUADRANTS

FRONT VIEW



TOP VIEW



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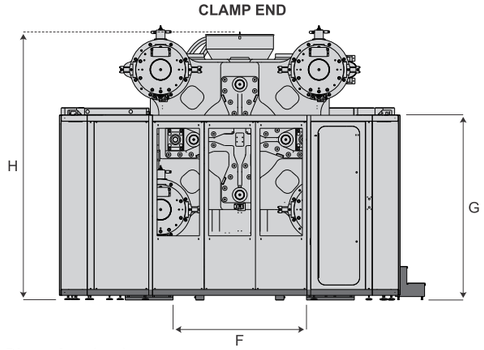
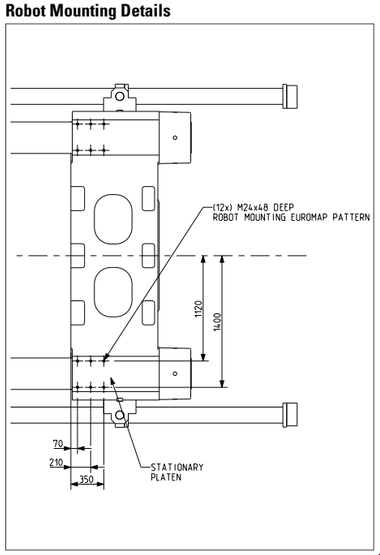


Dimensions (mm)

	13500 Frame (165) / 191 / 220 kW	16000 Frame (165) / 191 / 220 kW	23000 Frame 165 / 191 / 220 kW	34000 Frame 165 / 191 / 220 kW
L	(13692) / 14612	(13692) / 14612	14612	15787
W	5259	5259	5259	5259
H	3842*	3842*	3877*	3947*
A	4094	4094	4094	4094
B	2375	2375	2375	2375
C	2580	2580	2580	2580
D	6497	6497	6497	6497
E	1568	1568	1568	1800
F	1929	1929	1929	1929
G	2510	2510	2510	2510

* HEIGHT FOR FRAME SHOULD BE 4094 MM SINCE THE CLAMP IS HIGHER THAN HOPPER

Robot Mounting Details



THE C-SERIES

TONNAGE: 3200 Metric

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

Frame Sizes:
16000, 23000, 34000, 48000

TECHNICAL SPECIFICATIONS

C-SERIES 3200		16000 Frame			23000 Frame			34000 Frame			48000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications													
Injection Capacity, Maximum GPPS	gms	6330	8174	10253	9341	11718	15305	13182	17218	21791	19131	24213	29892
Screw Diameter	mm	110	125	140	125	140	160	140	160	180	160	180	200
L/D Ratio	L/D	25.7	22.6	20.0	25.8	23.0	20.0	25.9	22.6	20.0	25.1	22.3	20.0
Theoretical Displacement	cm^3	6652	8590	10775	9817	12315	16084	13854	18095	22902	20106	25446	31415
Maximum Injection Pressure	bar	2345	1890	1510	2207	1897	1448	2083	1897	1497	2207	1897	1538
Maximum Injection Pressure with Regen	bar	2103	1694	1350	1940	1657	1269	1820	1661	1312	1890	1627	1318
Injection Rate **(STD PKG)- 191 kW**	cm^3/sec	1091	1408	1767	1078	1353	1767	1069	1396	1767	1210	1532	1891
Injection Velocity **(STD PKG)- 191 kW**	mm/sec	114			89			69			61		
Injection Rate with Regen **(STD PKG) - 191 kW**	cm^3/sec	1219	1574	1974	1234	1547	2021	1221	1595	2019	1411	1786	2205
Injection Velocity with Regen **(STD PKG) - 191 kW**	mm/sec	128			101			79			70		
Injection Rate **(INCR. PKG)- 220 kW**	cm^3/sec	1248	1611	2021	1234	1547	2021	1223	1597	2021	1385	1752	2163
Injection Velocity **(INCR. PKG)- 220 kW**	mm/sec	132			102			79			69		
Injection Rate with Regen **(INCR. PKG) - 220 kW**	cm^3/sec	1394	1801	2259	1411	1770	2312	1397	1825	2309	1614	2043	2522
Injection Velocity with Regen **(INCR. PKG) - 220 kW**	mm/sec	147			115			91			80		
Injection Rate **(PERF. PKG)- 246 kW**	cm^3/sec	1402	1811	2271	1387	1739	2272	1374	1795	2272	1556	1970	2432
Injection Vleocity **(PERF. PKG)- 246 kW**	mm/sec	148			112			89			76		
Injection Rate with Regen **(PERF. PKG) - 246 kW**	cm^3/sec	1568	2024	2539	1586	1990	2599	1570	2051	2596	1815	2297	2835
Injection Velocity with Regen **(PERF. PKG) - 246 kW**	mm/sec	165			129			102			90		
Screw Stroke	mm	700			800			900			1000		
Back Pressure Limit	bar	34.5			34.5			34.5			34.5		
Screw Speed Maximum **(STD PKG) - 191 kW**	rpm	130			116			90			63		
Screw Speed Maximum **(INCR. PKG) - 220 kW**	rpm	130			130	130	119	103			72		
Screw Speed Maximum **(PERF. PKG) - 246 kW**	rpm	130			130	130	119	110	110	106	80		
Torque at Screw	Nm	17871			21014			25284			36210		
	bar	169											
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 191 kW**	gm/sec	139	184	240	164	213	298	167	233	345	152	206	297
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 220 kW**	gm/sec	139	184	240	184	240	308	191	267	394	174	236	340
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 246 kW**	gm/sec	139	184	240	184	240	308	203	284	404	193	261	376
Number of Pyrometers (Barrel/Nozzle)	qty	6+1						7+1					
Total Heat Capacity	kW	65.0			92.5			111.5			141.2		
Nozzle Holding Force	kN	112											

C-SERIES 3200		16000 Frame			23000 Frame			34000 Frame			48000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B	A'	A	B
Clamp													
Clamping Force	kN	32000											
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	582 / 2240											
Clamp Stroke	mm	3300											
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	807 / 970 / 1132											
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	774 / 932 / 1087											
Ejector Force (OPTIONAL)	kN	400											
Maximum Ejector Stroke (OPTIONAL)	mm	400											
Mold Protect Pressure	bar	103.4											
Maximum Daylight	mm	4200											
Min/Max Mold Thickness	mm	900 / 2000											
Maximum Mold Weight (50% per Platen)	kg	81000											
Platen Size (H × V)	mm	2990 x 2540											
Distance Between Tie Rods (H x V)	mm	2270 x 1820											
Tie Rod Diameter	mm	360											
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	8.4 / 7.5 / 6.9											
Diagonal Tiebar Distance	mm	3056											
Mold Locating Ring	mm	315											
General - STD Package													
Hydraulic System Pressure	bar	230											
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 191 kW**	mm	15232 x 5254.5 x 4276						16437 x 5254.5 x 4276			16437 x 5254.5 x 4276		
Machine Weight (with oil) **(STD PKG) - 191 kW**	kg	147371			151295			166786			168628		
Core Pull **(STD PKG) - 191 kW**	L/min	246											
Total Connected Load **(STD PKG) - 191 kW**	kW	256			283.5			302.5			332.2		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 220 kW**	mm	15232 x 5254.5 x 4276						16437 x 5254.5 x 4276			16437 x 5254.5 x 4276		
Machine Weight (with oil) **(INCR. PKG) - 220 kW**	kg	147371			151295			166786			168628		
Core Pull **(INCR. PKG) - 220 kW**	L/min	246											
Total Connected Load **(INCR. PKG) - 220 kW**	kW	285			312.5			331.6			361.2		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 246 kW**	mm	16437 x 5254.5 x 4276						16437 x 5254.5 x 4276			16437 x 5254.5 x 4276		
Machine Weight (with oil) **(PERF. PKG) - 246 kW**	kg	150649			154573			166786			168628		
Core Pull **(PERF. PKG) - 246 kW**	L/min	246											
Total Connected Load **(PERF. PKG) - 246 kW**	kW	311			338.5			357.6			387.2		
Total Oil Reservoir Capacity	L	2234 (3104)			2234 (3104)			3104			3104		
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.

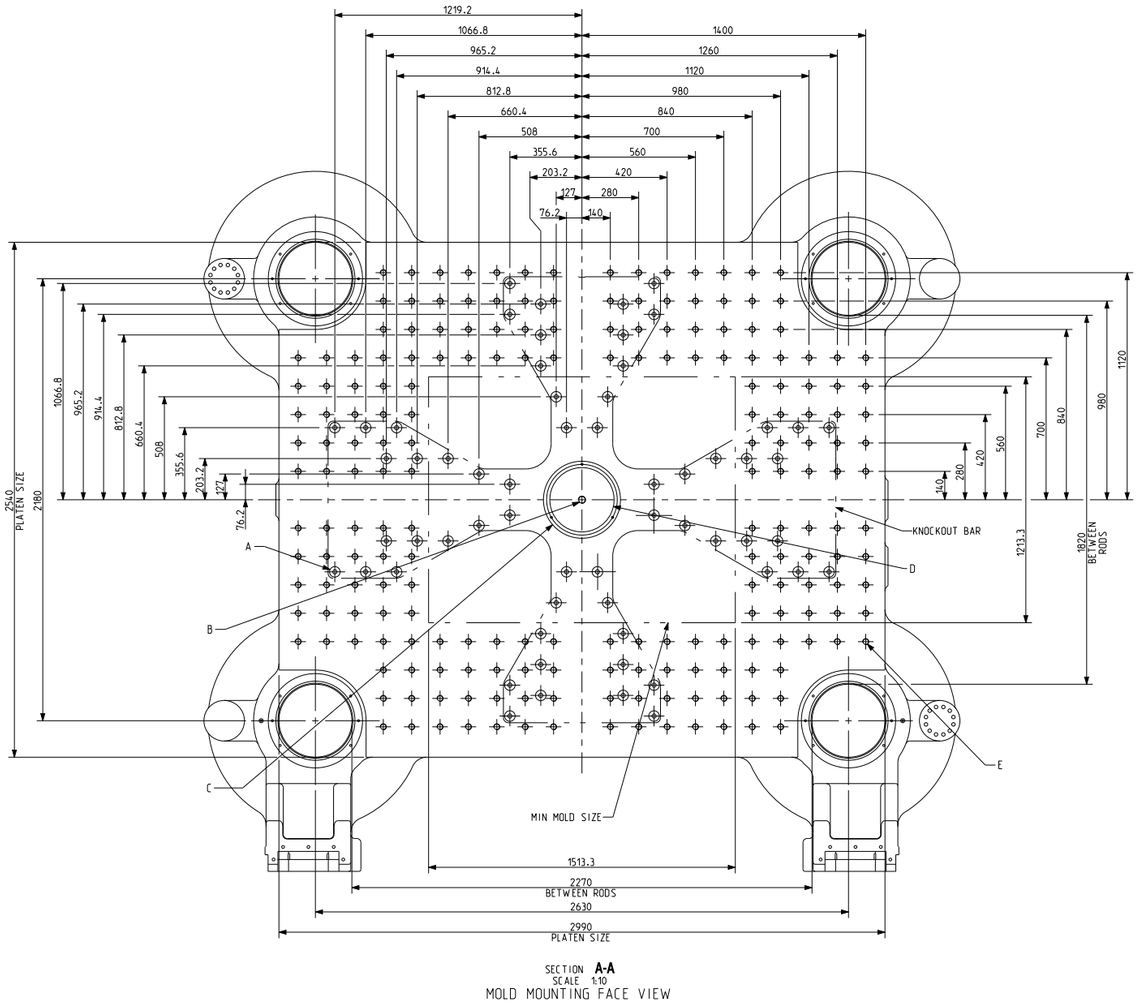
THE C-SERIES

TONNAGE: 3200 Metric

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

Frame Sizes:
16000, 23000, 34000, 48000

TECHNICAL SPECIFICATIONS



SECTION **A-A**
SCALE 1:10
MOLD MOUNTING FACE VIEW

ALL DIMENSIONS ARE IN MM

A (60x) Ø52 THRU PLATEN
(60x) 20.6 THRU KNOCKOUT BAR
(60x) 45x2.5 COUNTER BORE BACK SURFACE OF KNOCKOUT BAR
DIMENSIONS TYPICAL IN ALL QUADRANTS

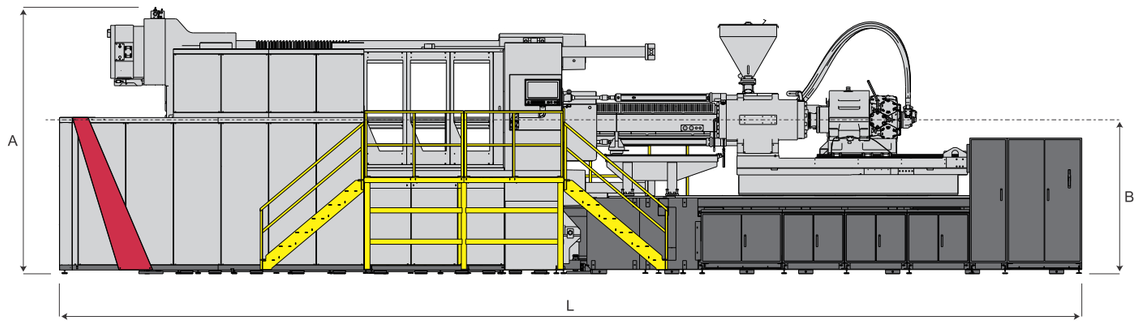
B M36x50 DEEP CENTER KNOCKOUT TAPPED HOLE

C Ø380 H8(+0.089)x25 DEEP
W/O DIE LOCATING RING ON MOVING & STATIONARY PLATEN

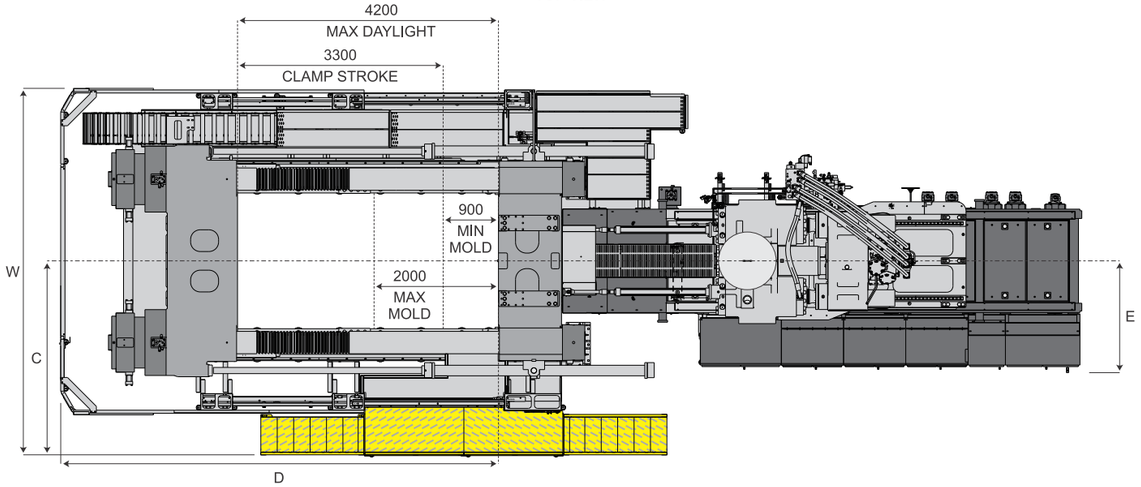
D Ø317 CENTER HOLE ON MOVING & STATIONARY PLATEN

E M30x60 DEEP
(204x) HOLES IN MOVING PLATEN
(204x) HOLES IN STATIONARY PLATEN
DIMENSION TYPICAL IN ALL QUADRANTS

FRONT VIEW



TOP VIEW



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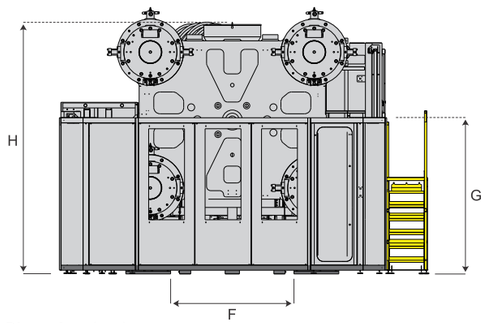
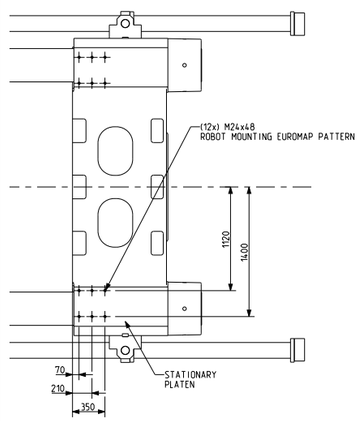


Dimensions (mm)

	16000 Frame (191 / 220) / 246 kW	23000 Frame (191 / 220) / 246 kW	34000 Frame 191 / 220 / 246 kW	48000 Frame 191 / 220 / 246 kW
L	(15252) / 16427	(15252) / 16427	16427	16427
W	6079	6079	6079	6079
H	3972*	3972*	4042*	4042*
A	4277	4277	4277	4277
B	2470	2470	2470	2470
C	3303	3303	3303	3303
D	7047	7047	7047	7047
E	1568	1568	1800	1800
F	1979	1979	1979	1979
G	2510	2510	2510	2510

* HEIGHT FOR FRAME SHOULD BE 4277 MM SINCE THE CLAMP IS HIGHER THAN HOPPER

Robot Mounting Details



THE C-SERIES

TONNAGE: 4000 Metric

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

Frame Sizes:
23000, 34000, 48000

TECHNICAL SPECIFICATIONS

C-SERIES 4000		23000 Frame			34000 Frame			48000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B
Injection Unit Specifications										
Injection Capacity, Maximum GPPS	gms	9341	11718	15305	13182	17218	21791	19131	24213	29892
Screw Diameter	mm	125	140	160	140	160	180	160	180	200
L/D Ratio	L/D	25.8	23.0	20.0	25.9	22.6	20.0	25.1	22.3	20.0
Theoretical Displacement	cm^3	9817	12315	16084	13854	18095	22902	20106	25446	31415
Maximum Injection Pressure	bar	2207	1897	1448	2083	1897	1497	2207	1897	1538
Maximum Injection Pressure with Regen	bar	1940	1657	1269	1820	1661	1312	1890	1627	1318
Injection Rate **(STD PKG)- 191 kW**	cm^3/sec	1078	1353	1767	1069	1396	1767	1210	1532	1891
Injection Velocity **(STD PKG)- 191 kW**	mm/sec	89			69			61		
Injection Rate with Regen **(STD PKG) - 191 kW**	cm^3/sec	1234	1547	2021	1221	1595	2019	1411	1786	2205
Injection Velocity with Regen **(STD PKG) - 191 kW**	mm/sec	101			79			70		
Injection Rate **(INCR. PKG)- 220 kW**	cm^3/sec	1234	1547	2021	1223	1597	2021	1385	1752	2163
Injection Velocity **(INCR. PKG)- 220 kW**	mm/sec	102			79			69		
Injection Rate with Regen **(INCR. PKG) - 220 kW**	cm^3/sec	1411	1770	2312	1397	1825	2309	1614	2043	2522
Injection Velocity with Regen **(INCR. PKG) - 220 kW**	mm/sec	115			91			80		
Injection Rate **(PERF. PKG)- 246 kW**	cm^3/sec	1387	1739	2272	1374	1795	2272	1556	1970	2432
Injection Vleocity **(PERF. PKG)- 246 kW**	mm/sec	112			89			76		
Injection Rate with Regen **(PERF. PKG) - 246 kW**	cm^3/sec	1586	1990	2599	1570	2051	2596	1815	2297	2835
Injection Velocity with Regen **(PERF. PKG) - 246 kW**	mm/sec	129			102			90		
Screw Stroke	mm	800			900			1000		
Back Pressure Limit	bar	34.5			34.5			34.5		
Screw Speed Maximum **(STD PKG) - 191 kW**	rpm	116			90			63		
Screw Speed Maximum **(INCR. PKG) - 220 kW**	rpm	130	130	119	103			72		
Screw Speed Maximum **(PERF. PKG) - 246 kW**	rpm	130	130	119	110	110	106	80		
Torque at Screw	Nm	21014			25284			36210		
	bar	169								
Plasticizing Rate (GPPS-Barrier Screw) **(STD PKG) - 191 kW**	gm/sec	164	213	298	167	233	345	152	206	297
Plasticizing Rate (GPPS-Barrier Screw) **(INCR. PKG) - 220 kW**	gm/sec	184	240	308	191	267	394	174	236	340
Plasticizing Rate (GPPS-Barrier Screw) **(PERF. PKG) - 246 kW**	gm/sec	184	240	308	203	284	404	193	261	376
Number of Pyrometers (Barrel/Nozzle)	qty	6+1			7+1					
Total Heat Capacity	kW	92.5			111.5			141.2		
Nozzle Holding Force	kN	112								

C-SERIES 4000		23000 Frame			34000 Frame			48000 Frame		
	METRIC	A'	A	B	A'	A	B	A'	A	B
Clamp										
Clamping Force	kN	40000								
Clamp Opening Force (Trav Cyl / Tonnage Cyl)	kN	761 / 2800								
Clamp Stroke	mm	3400								
Clamp Speed Close Velocity (STD/INCR./PERF.)	mm/sec	574 / 690 / 805								
Clamp Speed Open Velocity (STD/INCR./PERF.)	mm/sec	640 / 769 / 899								
Ejector Force (OPTIONAL)	kN	400								
Maximum Ejector Stroke (OPTIONAL)	mm	400								
Mold Protect Pressure	bar	103.4								
Maximum Daylight	mm	4300								
Min/Max Mold Thickness	mm	900 / 2200								
Maximum Mold Weight (50% per Platen)	kg	92000								
Platen Size (H × V)	mm	3125 x 2825								
Distance Between Tie Rods (H x V)	mm	2325 x 2025								
Tie Rod Diameter	mm	400								
Dry Cycle Time (Euromap 6) (STD/INCR./PERF.)*	sec	9.7 / 8.6 / 7.9								
Diagonal Tiebar Distance	mm	3248								
Mold Locating Ring	mm	315								
General - STD Package										
Hydraulic System Pressure	bar	230								
Machine Dimensions (L × W × H) (without stairs) **(STD PKG) - 191 kW**	mm	16588 x 6109 x 4719			16588 x 6109 x 4719			16588 x 6109 x 4719		
Machine Weight (with oil) **(STD PKG) - 191 kW**	kg	192459			204946			206787		
Core Pull **(STD PKG) - 191 kW**	L/min	246								
Total Connected Load **(STD PKG) - 191 kW**	kW	283.5			302.5			332.2		
Machine Dimensions (L × W × H) (without stairs) **(INCR. PKG) - 220 kW**	mm	16588 x 6109 x 4719			16588 x 6109 x 4719			16588 x 6109 x 4719		
Machine Weight (with oil) **(INCR. PKG) - 220 kW**	kg	192459			204946			206787		
Core Pull **(INCR. PKG) - 220 kW**	L/min	246								
Total Connected Load **(INCR. PKG) - 220 kW**	kW	312.5			331.5			361.2		
Machine Dimensions (L × W × H) (without stairs) **(PERF. PKG) - 246 kW**	mm	16588 x 6109 x 4719			16588 x 6109 x 4719			16588 x 6109 x 4719		
Machine Weight (with oil) **(PERF. PKG) - 246 kW**	kg	192459			204946			206787		
Core Pull **(PERF. PKG) - 246 kW**	L/min	246								
Total Connected Load **(PERF. PKG) - 246 kW**	kW	338.5			357.5			387.2		
Total Oil Reservoir Capacity	L	3104								
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.

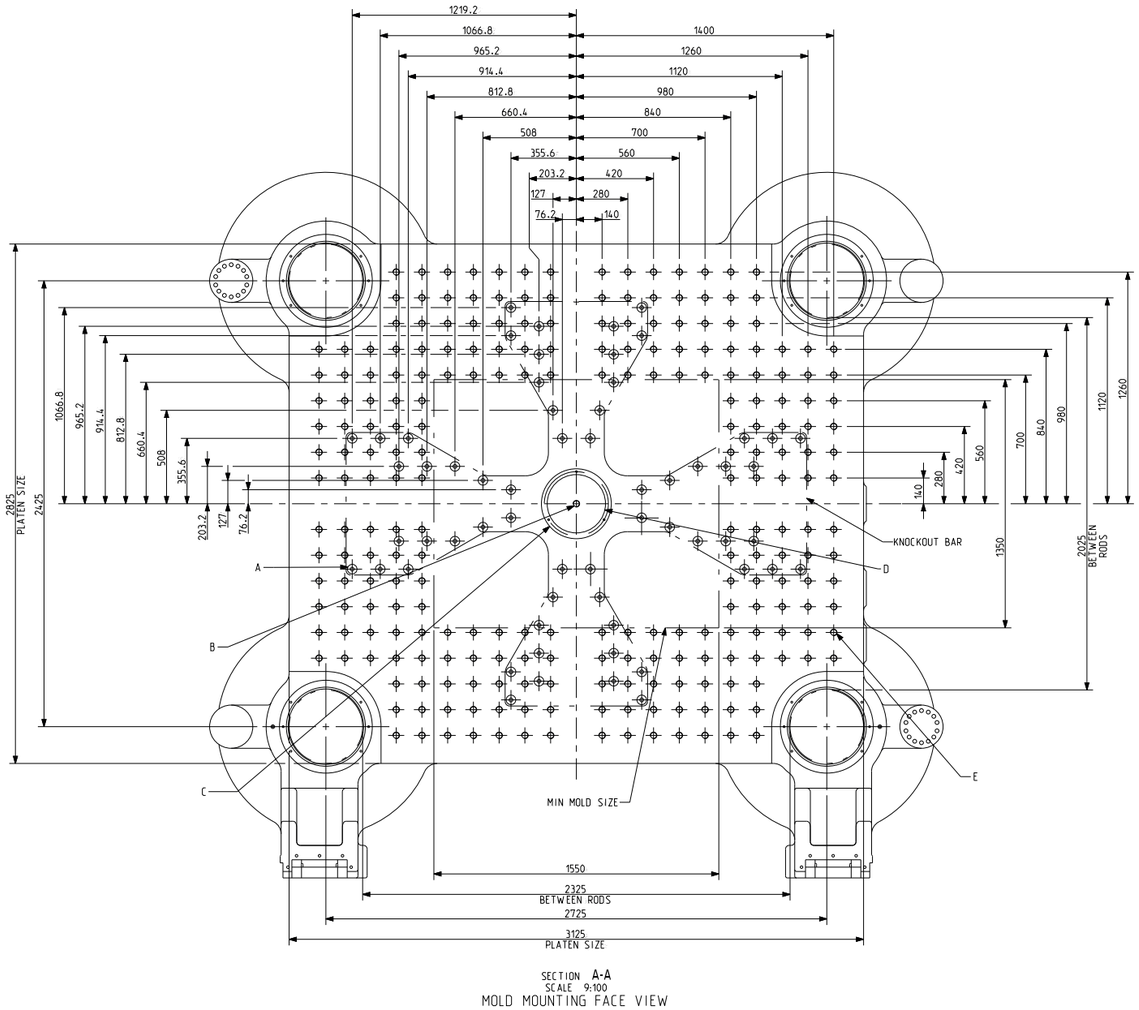
THE C-SERIES

TONNAGE: 4000 Metric

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

Frame Sizes:
23000, 34000, 48000

TECHNICAL SPECIFICATIONS



ALL DIMENSIONS ARE IN MM

A (60x) Ø52 THRU PLATEN
(60x) 20.6 THRU KNOCKOUT BAR
(60x) 45x2.5 COUNTER BORE BACK SURFACE OF KNOCKOUT BAR
DIMENSIONS TYPICAL IN ALL QUADRANTS

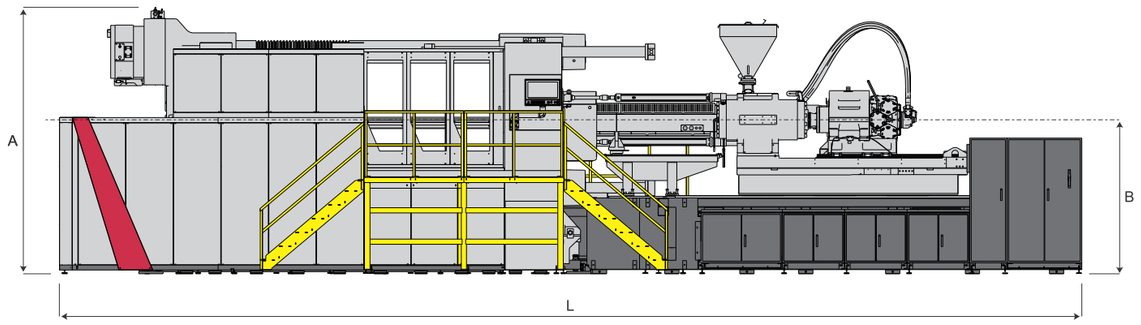
B M36x50 DEEP CENTER KNOCKOUT TAPPED HOLE

C Ø380 H8(+0.089)x25 DEEP
W/O DIE LOCATING RING ON MOVING & STATIONARY PLATEN

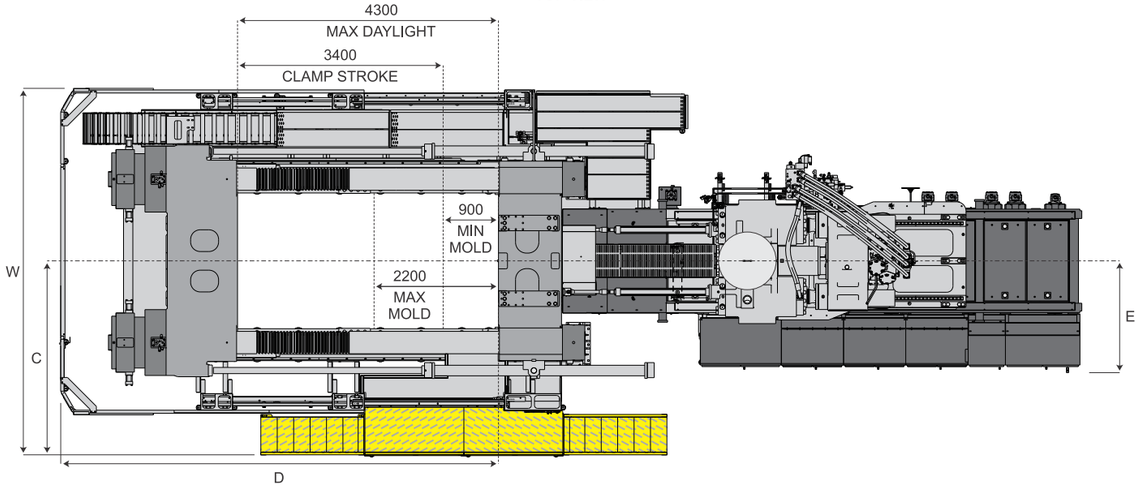
D Ø317 CENTER HOLE ON MOVING & STATIONARY PLATEN

E M36x72 DEEP
(244x) HOLES IN MOVING PLATEN
(244x) HOLES IN STATIONARY PLATEN
DIMENSION TYPICAL IN ALL QUADRANTS

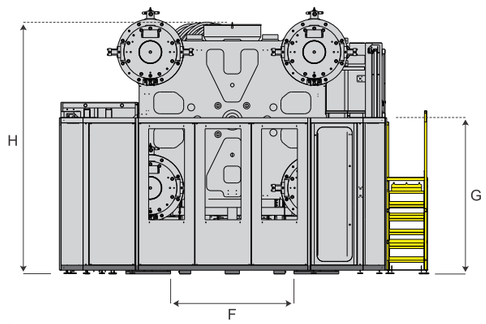
FRONT VIEW



TOP VIEW



CLAMP END

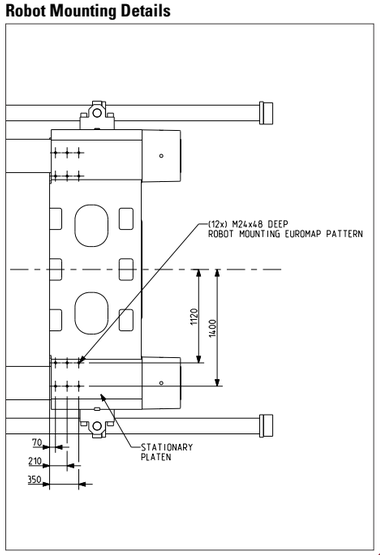


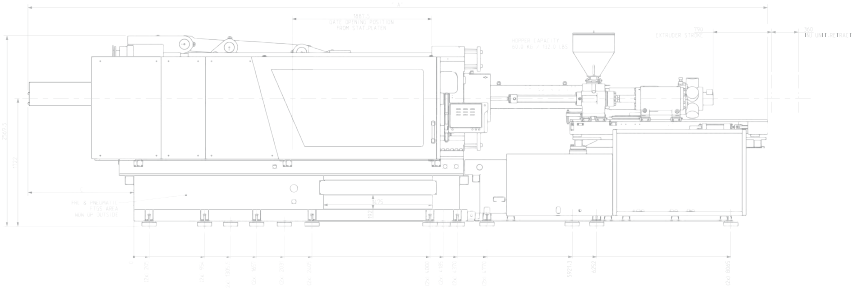
Dimensions (mm)

	23000 Frame 191 / 220 / 246 kW	34000 Frame 191 / 220 / 246 kW	48000 Frame 191 / 220 / 246 kW
L	16578	16578	16578
W	6185	6185	6185
H	4232*	4302*	4302*
A	4719	4719	4719
B	2730	2730	2730
C	3306	3306	3306
D	7118	7118	7118
E	1800	1800	1800
F	2074	2074	2074
G	2510	2510	2510

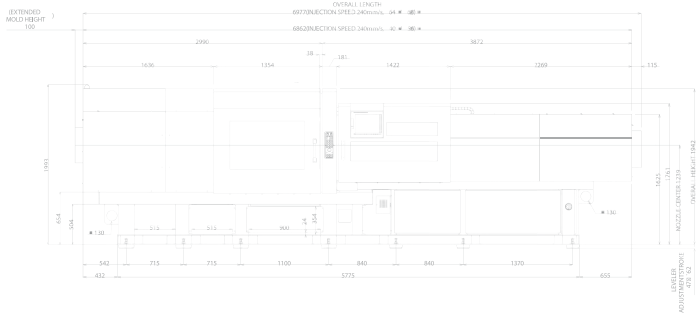
* HEIGHT FOR FRAME SHOULD BE 4719 MM SINCE THE CLAMP IS HIGHER THAN HOPPER

Robot Mounting Details





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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