MILACRON®

THE eQ-SERIES

50-650 ALL-ELECTRIC

MILACRON

THE eQ-SERIES

HIGH PRECISION ELECTRIC INJECTION MOULDING

INGENUITY, DEDICATION AND EXPERIENCE
eQ-SERIES gives you the flexibility to handle more applications. eQ-SERIES's movements are entirely controlled by servo drives. This not only results in maximized acceleration, but it ensures ultimate accuracy and exceptional reliability across all processes as well as highly precise motion, position and pressure control.

RELIABILITY AND REPEATABILITY FOR HIGH PRECISION ELECTRIC INJECTION MOULDING

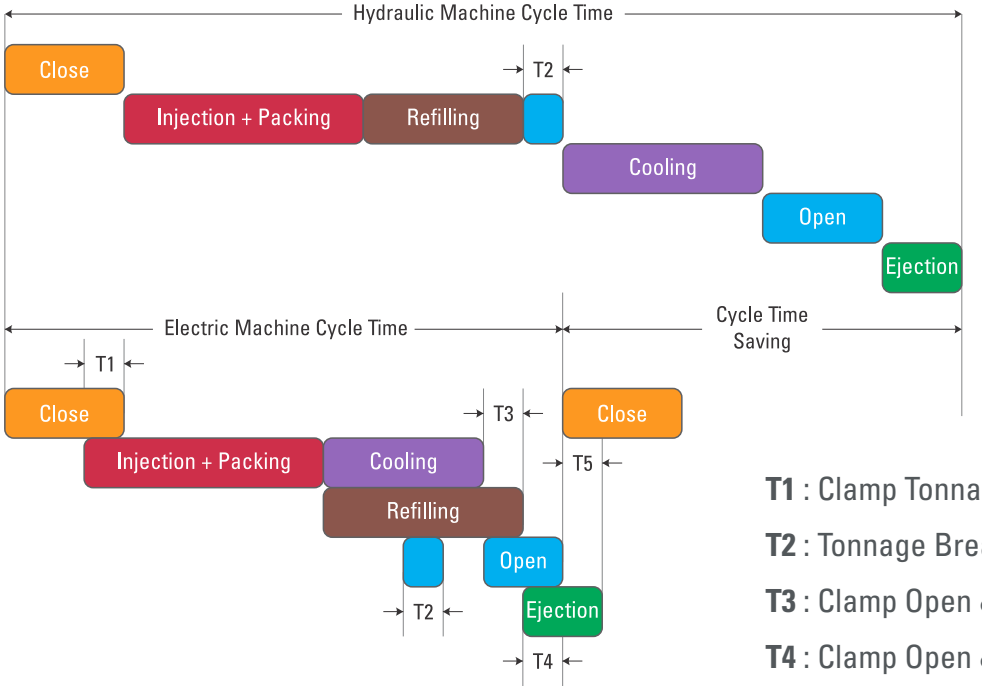
- Large Tie Bar spacing and highly sensitive mould safety
- Moving platen on L M guideway
- Simplfied programming of freely configurable cores
- Very low maintenance costs – proven design and product optimisation results in maximum machine uptime, fewer components and less wear

SERVO TECHNOLOGY MAKES THE DIFFERENCE

The latest generation servo drives are designed for handling fast acceleration and short time peak current. The feeding of energy back to the power supply optimizes energy consumption.

CYCLE TIME SAVINGS

Optimize your cycle time using simple pre-injection function. Typical cycle reduction of 0.3 – 0.7 seconds.



T1 : Clamp Tonnage & Pre-Injection

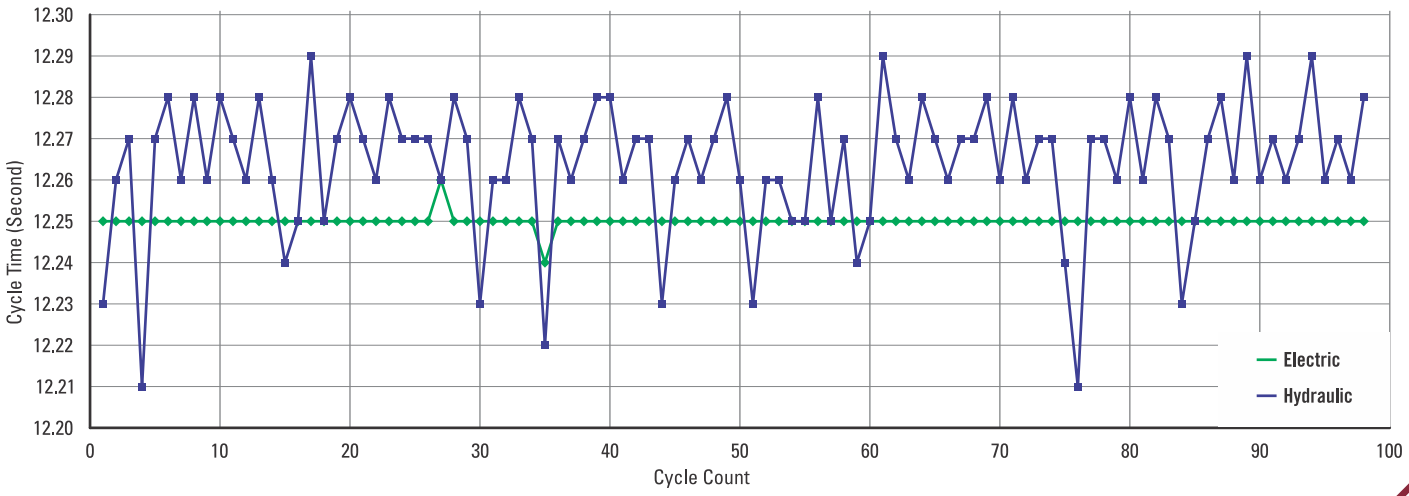
T2 : Tonnage Breakaway

T3 : Clamp Open & Refilling (NSOV / Mould gate)

T4 : Clamp Open & Ejector Forward

T5 : Clamp Close & Ejector Retract

UNMATCHED REPRODUCIBILITY



THE eQ-SERIES

IMPROVED CLAMP DESIGN

- Fast and Smooth Mould movements through Improved Toggle kinematics, Linear Guides and Advanced Motion Control
- Long Tie Bar Spacing, Mould Opening Stroke & Ejector Stroke

STRONG AND STABLE

- Rigid Base design with reduced deflection
- High Performance and Long-life Anti-Vibration mounts

ADVANCED MOULD PROTECTION

- Advanced Mould Safety
- Advanced Mould Ejector Pin Safety
- Ejector Motor with Mechanical Brake to Hold Ejector Spring in Position

PROVIDING THE HIGHEST PERFORMANCE, PRECISION AND FLEXIBILITY.

HIGH PERFORMANCE CONTROL

- Reliability
- Flexibility
- Ease of Operation
- Ease of Diagnostics / Troubleshooting

STRONG & STABLE INJECTION UNIT

- Rigid mechanical structure and Linear Guides for Smooth and Precise Injection velocity
- Loadcell with advanced Strain technology for precise Injection & Back Pressure control
- Hydraulic Nozzle Holding Force

ENERGY EFFICIENT

- Low Power Consumption through Regenerative Servo drive technology
- Advanced Motion technology for Fast and Precise Performance

IMPROVED ELECTRIC DRIVE AND SAFETY FEATURES

- Surge Suppressors provided as Standard
- Inbuilt Line Filters & Inductors to reduce harmonics

THE eQ-SERIES

The industry standard setting technology found in the eQ-SERIES all-electric injection moulding machine is a direct result of years of dedication and experience.
eQ-SERIES is the next generation of injection moulding machine, with higher precision and reliable moulding capabilities than ever before. Engineered for greater rigidity, eQ-SERIES's proven performance makes it the perfect solution for cleanrooms and other moulding environments that demand precise process control, high speed injection, and consistent repeatability.

Injection Unit Specifications

IU	55	120	300	450	630	970	1540	2290	3470
eQ-SERIES 50									
eQ-SERIES 80									
eQ-SERIES 110									
eQ-SERIES 150									
eQ-SERIES 180									
eQ-SERIES 230									
eQ-SERIES 280									
eQ-SERIES 350									
eQ-SERIES 450									
eQ-SERIES 550									
eQ-SERIES 650									

Clamp Specifications

MODEL	TONNAGE	PLATEN SIZE (H X V)	TIE BAR SPACING (H X V)	MAX DAYLIGHT	MIN/MAX MOULD THICKNESS
	kN	mm	mm	mm	mm
eQ-SERIES 50	500	540 x 500	370 x 330	680	150 / 410
eQ-SERIES 80	800	600 x 580	420 x 400	810	150 / 480
eQ-SERIES 110	1100	690 x 645	480 x 435	900	150 / 520
eQ-SERIES 150	1500	780 x 740	550 x 510	1060	200 / 600
eQ-SERIES 180	1800	810 x 770	575 x 525	1100	200 / 600
eQ-SERIES 230	2300	920 x 820	660 x 560	1260	200 / 710
eQ-SERIES 280	2800	990 x 940	710 x 660	1400	250 / 750
eQ-SERIES 350	3500	1120 x 1035	810 x 725	1520	300 / 800
eQ-SERIES 450	4500	1245 x 1200	875 x 830	1670	350 / 820
eQ-SERIES 550	5500	1330 x 1300	1000 x 900	1820	400 / 900
eQ-SERIES 650	6500	1550 x 1370	1190 x 1020	2100	450 / 1100

APPLICATIONS

• CAPS & CLOSURES • PACKAGING • MEDICAL • AUTOMOTIVE

CLAMPING UNIT

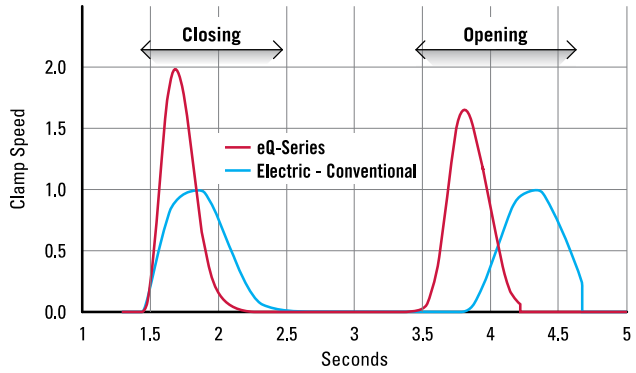
The all new clamp system on the eQ-series has been mounted on the LM guideways which provide precise movement with no frictional losses. The clamp system has higher mold weight carrying capacity, enhanced parallelism and squareness.

- Wide platen and tie bar spacing for greater flexibility
- Clamp designed for uniform force distribution minimising platen deflection and reducing mould flash tendency
- Automatic Die Height adjustment for accurate tonnage setting
- Standard Core software provides flexibility to customer in configuring special sequences; Various options of portable hydraulic power units available.
- Water systems available to increase cooling efficiency and higher productivity
- The precise and sensitive mould protection reduces the risk of damage to sensitive and expensive tools. The tonnage drop function during the cooling time is an additional option for reducing the cycle time.

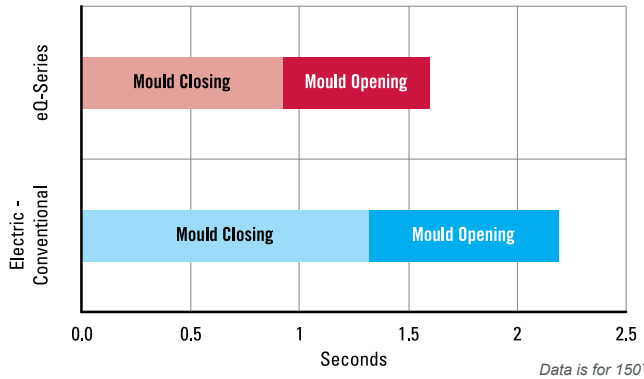
Smooth & Fast movement of Clamp

Better performance than conventional Electric Injection Moulding machines.

UPTO 2X CLAMP SPEED

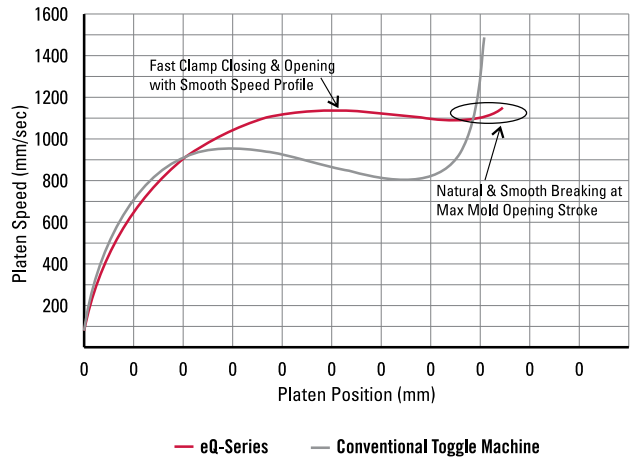


UPTO 25% FASTER CLAMP CYCLE TIME

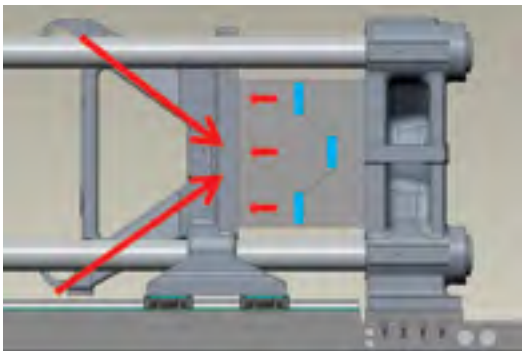


Data is for 150T

FAST & SMOOTH MOULD CLOSING / OPENING SPEED



CLAMP UNIT ON LM GUIDEWAYS



The moving platen design is improved for centrally applied force on the mold thereby ensuring uniform load distribution across the mould face and reduces platen deformation at the centre.

* Patent Pending

INJECTION UNIT

High performance injection motors

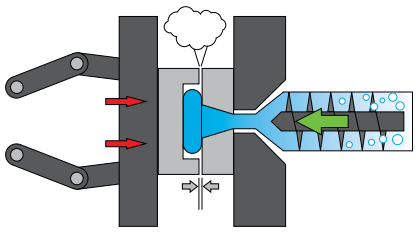
- Servo motors / drives optimised to deliver optimum performance with power.
- Reduced melt stress (70%)

High performance injection unit

- Fast & accurate injection pressure control with 500 sampling every second
- Selectable dynamics of Injection supports special applications & improves component life
- Hydraulic sled unit for higher nozzle contact force requirement in packaging application
- 25% Increased Injection Speed with reduced pressure possible

Pre-Injection

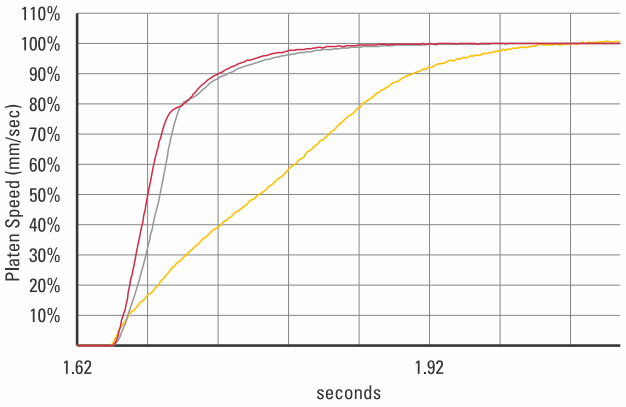
eQ-SERIES's Pre-Injection feature enables the start of injection based on partial tonnage (selectable) built up.



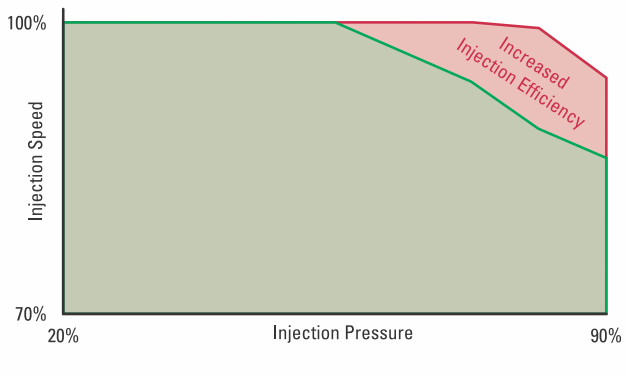
- Enhanced mould venting is controlled by injection timing and also available based on pressure or clamp tonnage feedback
- Instant cycle time reduction by overlapping of injection and tonnage build and/or clamp force decompression during cooling stage

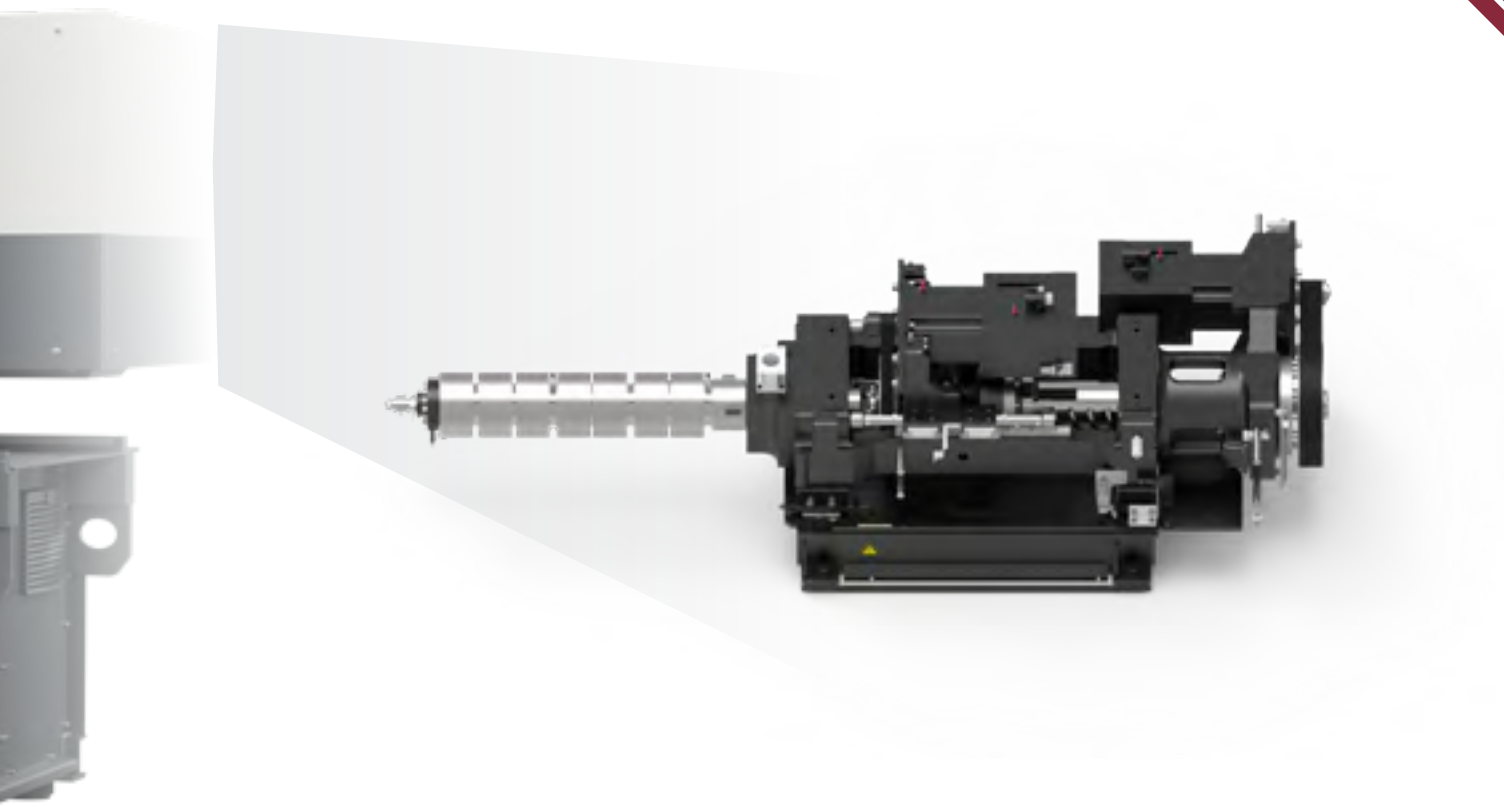
* Standard Feature for CE Machines

Higher Injection Acceleration

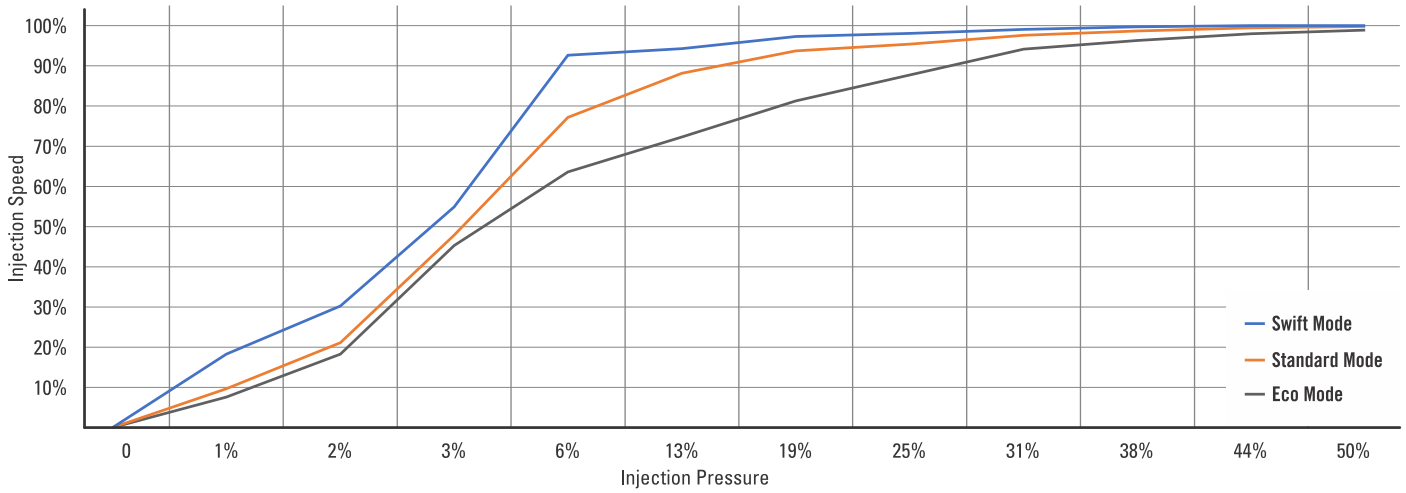


Upto 90% Injection Efficiency





FLEXIBLE MACHINE



PROTECT YOUR VALUABLE MOULDS

MOLD SAFETY SYSTEM

The mould is one of the most critical parts of the injection molding process. The new eQ-SERIES machines protect your mold as standard with the mold safety function. This is a monitoring system that detects the presence of left over from the last process cycle or foreign objects between the core and cavity. It is a continuous monitoring system. The control system stores and analyzes the data after each process cycle.

MAXIMUM MOULD PROTECTION

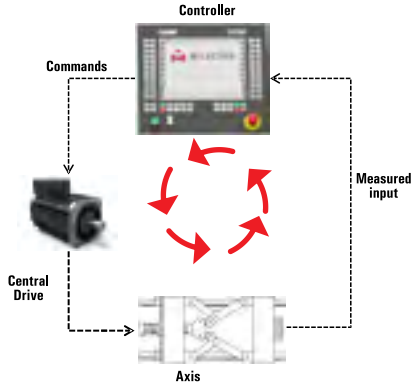
The eQ-SERIES mould protection offers the best protection on the market.

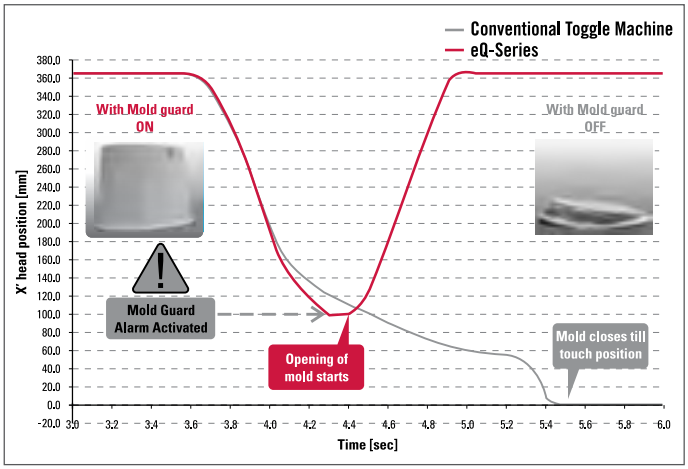
RELIABLE PROTECTION AT NO COST TO SPEED

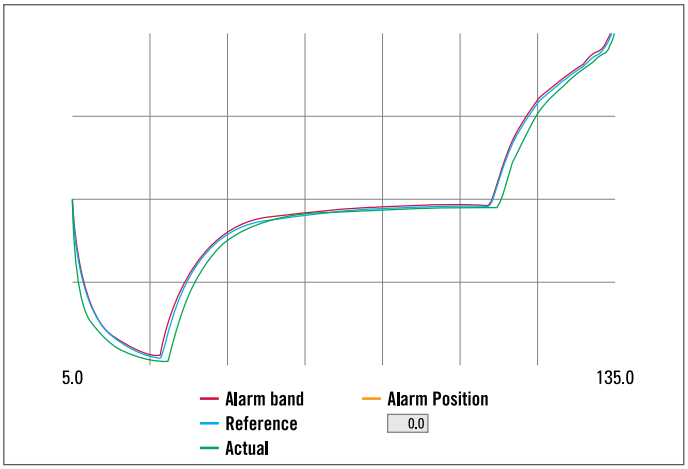
This kind of high-speed responsiveness is provided by its electric drives and superior motion control technology. Clamp tolerances are also programmable across the entire mould movement.

YOUR BENEFITS WITH EQ-SERIES MOULD AND EJECTOR PROTECTION:

- Protects your mould from damage
- Minimal repair costs
- Reduces costly downtime
- Very easy set-up – just turn on and set sensitivity level





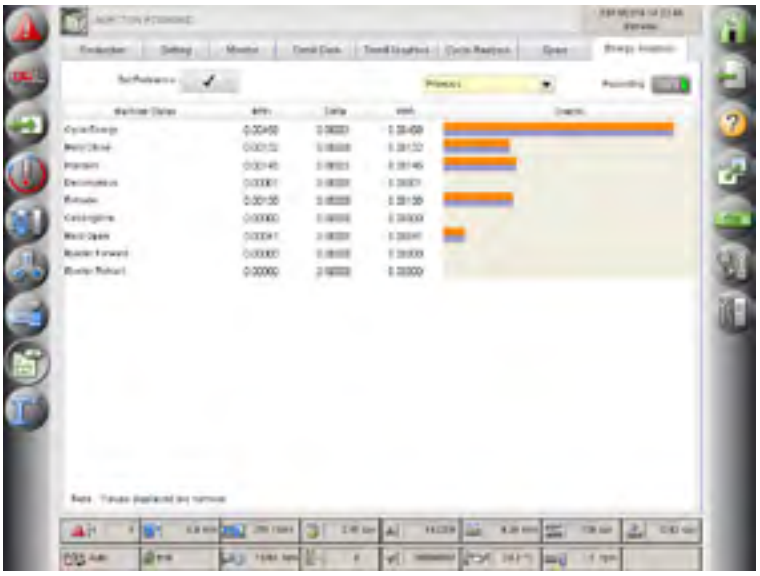


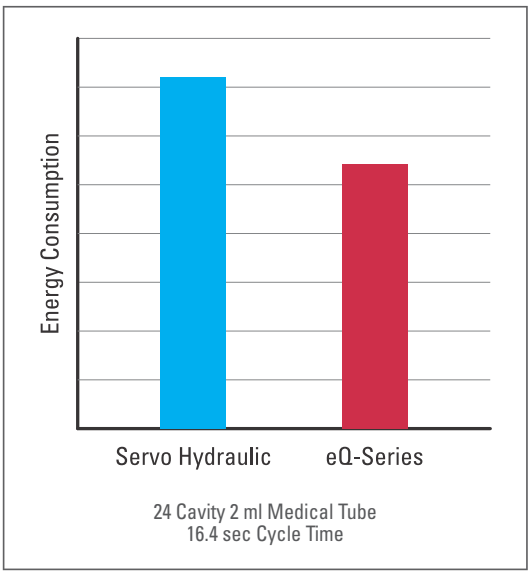
LOW ENERGY CONSUMPTION

Milacron's superior servo technology and intelligent energy recovery system reduces eQ-SERIES's energy consumption by 50-70% compared to hydraulic machines. eQ-SERIES's regenerative power recovery system stores energy during motor braking and makes it available for other motions.

POWER CONSUMPTION BREAKTHROUGHS

Power consumption of each function is recorded. The excess energy fed back from the motors is also monitored. The insulated heater bands prevent loss of energy in form of heat.





Energy Saving up to 50–70%

Compared to Hydraulic Machines

SMALLER FOOTPRINT. INTEGRATED POWERPACK

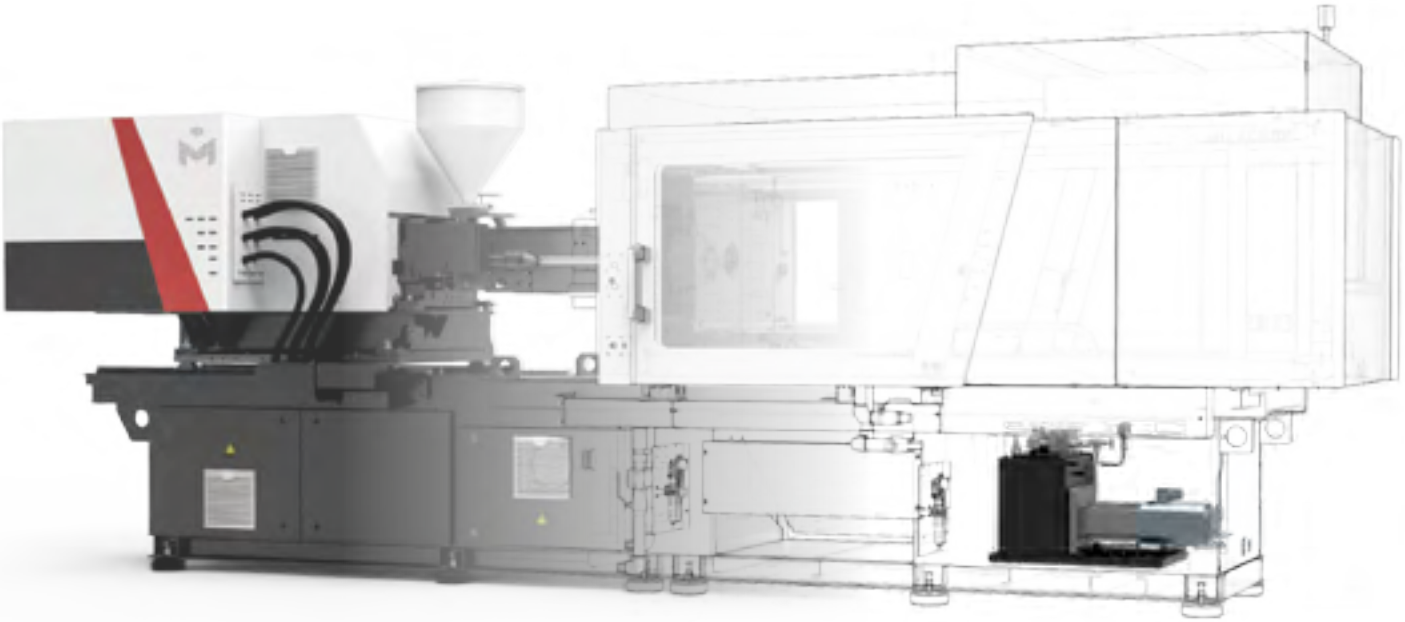
The eQ-SERIES comes equipped with a powerpack inside the base of the machine. This reduces the overall footprint of the machine and the need to invest in an additional external powerpack.

Benefits

- Space Saving
- Pre-configured / Integrated with machine capability
- Leakfree / Low noise design

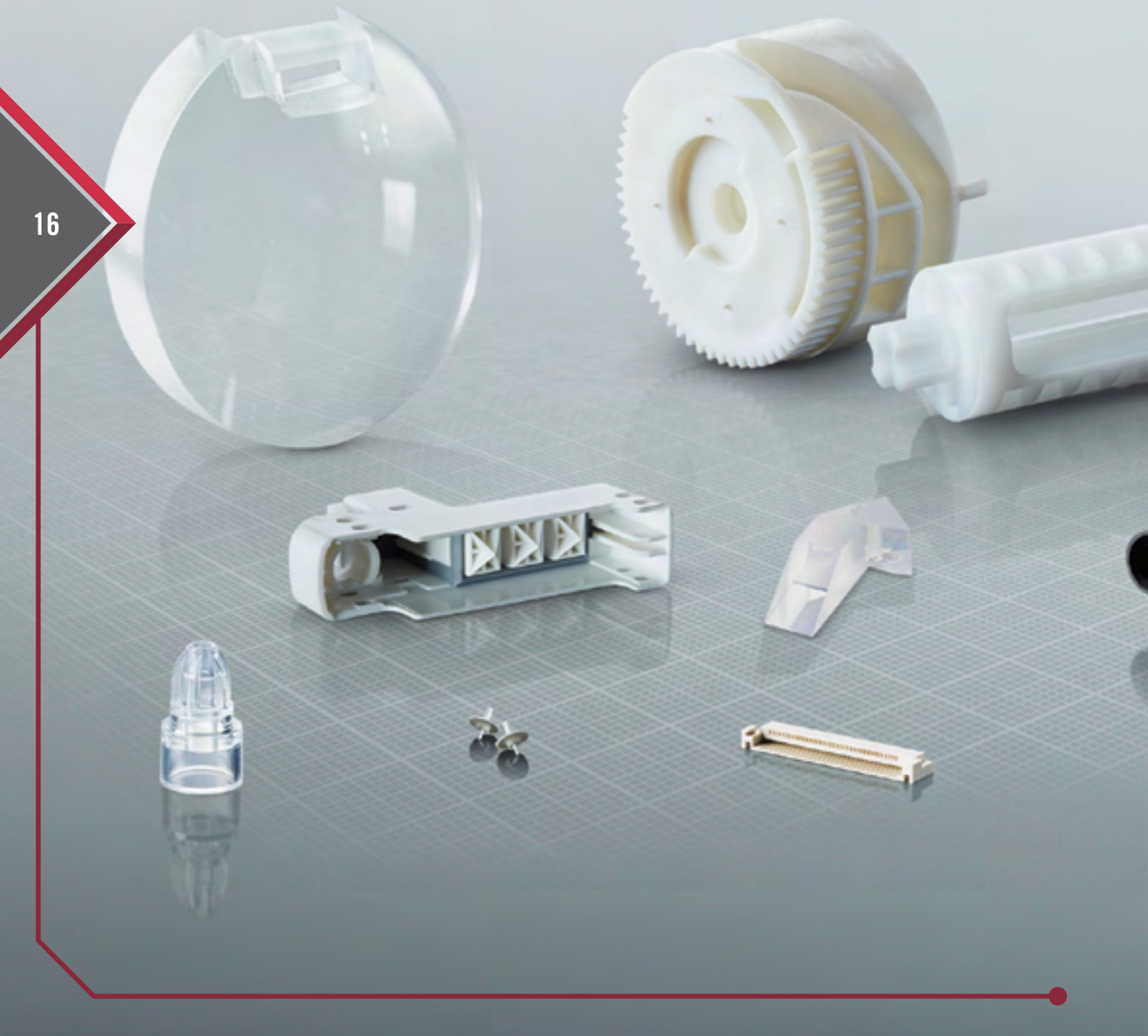
Application

- Core pull
- High nozzle contact force



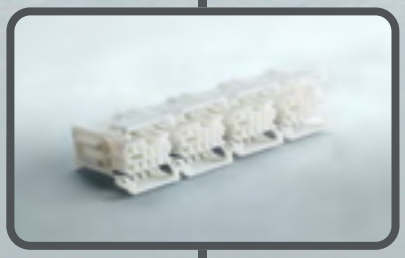
VERSATILE MACHINERY FOR ALL APPLICATIONS

With models capable of exerting clamping forces from 500 to 6500 kN, eQ-SERIES is ideally suited to a diverse range of straightforward as well as sophisticated injection moulding tasks. Offering huge versatility, eQ-SERIES's unique strength is the freedom it provides you to produce almost anything using just one machine – whether that be delicate items such as thick wall camera lenses, micro medical or thin wall packaging products, that require high levels of dynamic force to produce. Thanks to its high level of specification, even standard eQ-SERIES machines can be used to produce specialised items.



THIN WALL MOULDING

MULTI COMPONENT MOULDING



PRECISE MOULDING

PRECISE MOULDING

AUTOMOTIVE INDUSTRY

With a host of functions designed specifically to resolve the issues – such as gas venting or variations in plasticising time and volume – that can impact the production of automotive parts eQ-SERIES is ideally suited the large-scale manufacture of automotive parts. eQ-SERIES will continue producing flawless parts over the long term, delivering excellent cycle times and requiring minimum maintenance. Repeatability is also in a class of its own, with the machine delivering exactly the same quality after multiple cycles as it did on the first shot. What is more, because production runs in the automotive industry change frequently, eQ-SERIES comes with the widest range of available screw sizes, providing you with the power to adapt and enjoy outstanding versatility from a single machine.

Ultimate flexibility

The eQ-SERIES allows moulders the maximum amount of application flexibility with its increased daylight option and easily interchangeable barrels and screws. The eQ-SERIES also provides exetional repeatability when moving moulds from machine to machine even when changing models or tonnages.

Capability to integrate additional axes

By using servo motors and drives, the eQ-SERIES can fully integrate multiple additional axes all through one control. The eQ-SERIES has the capability to easily integrate and maintain precise control and movement repeatability.

eQ-SERIES can be fully integrated with other axes (like cores, both hydraulic and electric) allowing all functions to be operated from the one machine. control.

Optimal networking with master computer & M-Powered

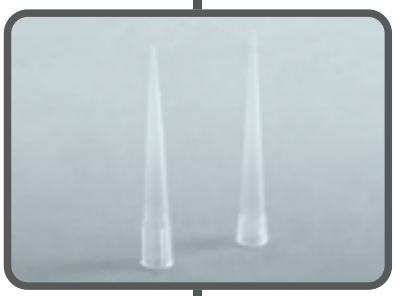
M-Powered integrates all Injection Moulding Machines from Milacron to a single platform for performance management.

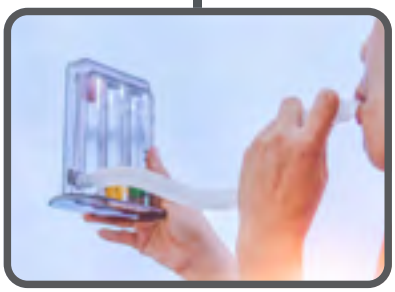
Either EUROMAP 63 or OPC/UA are available as optional master computer interfaces.

- Central production monitoring
- Process data capture & extraction
- Machine status visualisation
- Customised reports

MEDICAL INDUSTRY

Quality, reliability and repeatability are critical to the production of medical products. eQ-SERIES has a highly sensitive pre-injection process to resolve any issue related to processing of medical grade plastics.





Integrated hot runner control

This allows the machine operator to control the processing parameters from the machine control thereby providing ease of operation.

Historical traceability

Given the nature of medical products, acquiring and processing data is critical. To make this easy eQ-SERIES is available with smart features – such as M-Powered & Euromap 77 OPC designed to capture and store data on a central server and provide complete part traceability.

Enhanced processing information

Just what you need for setting up, validation and on-going monitoring.

- Reference data curve storage
- Quality control outputs
- Multiple curve display
- Optional multiple cavity pressure interface with external signal transfer
- Process data download during operation to External USB device / Network location.
- Available 0-10Vdc for multiple parameters
- Custom Signal capability to interface with automation

Dimensional Accuracy

The product output from the eQ-SERIES is always consistent in terms of weight and dimensions, two things that matter the most in the medical industry.

PACKAGING

eQ-SERIES offers solutions for maximum productivity in the packaging market. Whether it's sparkling clear, durable, or thin-walled parts, the eQ-SERIES can deliver rapid and precise injection and mould movements. The standard pre-injection function allows for faster injection times without vent burning and decompression of clamp force while in the cooling phase. Demanding process capabilities include in-mould-labeling, servo unscrewing for caps or multi-component technology. With the high acceleration injection, instantaneous transition and the high response servo-motor control, eQ-SERIES maintains superior shot weight control.

Heavy-duty injection units for faster cycle times

The production of components for the packaging industry often demand machines that are capable to achieve cycle times less than 5 sec. to produce closures and food containers. eQ-SERIES has a proven injection unit to achieve this.

Increase the quality of your optical parts

For packaging parts, control of the mould temperature is critical for surface quality. Integrating this functionality into the control saves time and helps prevent errors.
Consistent moulding is enabled by the clamp and ejector compression function.

Screw variation and flexibility

Milacron offers a variety of different screw and barrel materials specifically designed to fit your application.

Wide Tie Bar Spacing

The eQ-SERIES is able to accommodate wider moulds for various packaging applications. This is due to the industry´s best Tie-Bar spacing provided on the clamp. The clamp also has higher mould weight carrying capacity than the older generation machines.

FEATURES

CLAMP	
5 Operator adjustable closing & opening speeds	●
Tonnage Display on screen via Strain Sensor	●
All parameters set in Physical / Absolute values	●
Mould safety speed and force adjustable	●
Position based accel/decel	●
Clamp position read out	●
Open Loop Auto die height adjust (toggle)	●
Moving Platen on Linear Guides and Grease Free Tie Bars	●
Clamp try again	●
Clamp Force Decompression during Cooling	●
Grease Collection Tray below Toggle Area and Moving Platen	●
Euromap Mould Mounting Holes pattern	●
Euromap 18 Robot mounting on Stationary Platen	●
Extended Daylight	○
Extra Shoe for Stack Mould on LM guide	○
T-Slot Platen	○
T-Slot with tapped Holes	○
JIS Mould Mounting	○
JIS ejector	○
Quick change ejector coupling (Centre Ejector)	○
Pneumatic Jam Bar	○
Robot Mounting as per SPI	○
De-Humidification covers	○

EXTRUDER	
Digital set extruder speed (RPM)	●
Digital read out actual RPM	●
Closed Loop speed (RPM) control	●
5 Extruder RPM steps - refilling cycle	●
Closed Loop Back Pressure control	●
5 Back pressure steps	●

EJECTOR	
Ejector position read out	●
Closed Loop Speed control	●
Intermediate retract setpoint	●
Adjustable forward/retract speed	●
2 Forward speeds (Separate speeds for 2nd pulse & 3-9 pulses i.e. 2 more speeds)	●
2 Retract speeds	●
9 Ejector pulses	●
Parellel Ejection (Eject on Fly)	●
Eject Retract verification by Limit Switch	●
Ejector Stay Forward with Gate Open via Ejector Motor with Brake	●
SPI Knock out Bar for Multipoint Ejection	●
Increased Ejector Force and Velocity	○

INJECTION	
Closed Loop Velocity	●
20 Configurable velocity steps (10 - Fill & 10- Pack/Hold)	●
Closed Loop Pressure control	●
10 - Fill pressure steps	●
10 Configurable packing/hold pressure steps	●
Transfer Ti = Time; Po = Position; Pr. = Pressure	●
Delayed start of plasticizing function	●
Thermocouple breakage monitoring	●
All parameters set in Physical / Absolute values	●
Injection Position readout	●
Injection pressure on screen by Loadcell	●
Cold Start Protection	●
Injection decompression before/after/both	●
Insulated Ceramic Heaters for energy saving	●
Injection on Linear Guides for fast speed and smooth movement	●
Nitrided GPPS Screw, Barrel and Nonreturn valve	●
Electric Injection unit Movement and Nozzle Holding Force	●
Sliding Hopper with magnet	●
Pneumatic Shut Off Nozzle	○
Wear Resistant (Bi-Metalic) Barrel	○
Wear Resistant Feedscrew	○
Special TSV	○
High Temperature Heaters	○
Extended nozzle tip & Heaters	○
High Speed Injection	○
Longer Holding Time	○
Electric Nozzle Contact Force	○

TIMERS	
Overall cycle timer	●
Injection delay timer	●
Injection timer	●
Injection pack/hold	●
Cool timer	●
Extruder delay timer	●
Extruder Overrun timer	●
Sled retract delay timer	●
Sprue break with timer	●
Clamp open dwell timer	●
Ejector forward & retract delay timer	●
Decompression Before & After Delay Timer	●
Timer precision - 0.01 Sec	●
Weekday Timer	●

TEMPERATURE CONTROL	
PID control nozzle	●
PID control all barrel zones	●
High/ low temperature alarms	●
Feed Throat Temperature Control	●
Auto Heat Start Programme	●
Heater Failure Detection & Monitoring on screen	●

● - Standard Feature ○ - Optional Feature

* Features not available on all models.

FEATURES

VISUALIZATION	
15" color touchscreen display	●
72 function keys with LEDs, arranged around the touchscreen	●
Display of current injection speed and pressure	●
39 parameter monitoring for the last 3000 cycles	●
Storage of 500 tool data	●
Display of upper/lower limit values for each adjustable parameter	●
I/O diagnostics – analog & digital	●
Page-specific HTML help	●
Overview menu for easy access to all axis parameters	●
Selection of multiple languages	●
Unit selection (metric or imperial)	●
Data protection with four access levels for up to 100 machine operators	●
Graphical representation of production for the last 48 hours	●
Daily production data for the last 1 year	●
Graphical representation of cycle analysis	●
Energy consumption analysis for each axis	●
Recording of process data, alarms, change log (USB or network storage)	●
Logging of the last 3000 setpoint changes with date, time, and user	●
Logging of the last 3000 alarms with date and time	●
Process mode: Full axis movement in one direction	●
Notepad	●
Configurable inputs/outputs	●
No page more than two clicks away	●
Automatic shutdown	●
Visual and audible alarm	●
Setpoint and actual values are displayed as absolute values	●
Plausibility check of entered values	●
USB storage option for tool data, trend data, alarm history, setpoint changes, logbook, and screen pages	●
Shift-based production counter	●
Diagnostic screen for servomotor/drive	●

SOFTWARE	
Semi-automatic flushing	●
Removal of cold plugs	●
Intrusion	●
Overmolding	●
Freely programmable core pull sequence	●
Limit switch for maximum nozzle lift	●
Early injection (injection together with clamping force build-up)	●
Parallel operation for mold movement, ejector, and plasticization	●
Monitoring of mold closing movement	●
Synchronous ejection with mold closing movement	●
Control of injection acceleration Auto modes	●
Automatic user logout	●
Logbook readout of the control system on the screen	●
Robot interface (SPI & Euromap -12 & -67)	○
Rear ejector verification by limit switch	○
Reject signal	○

HYDRAULICS, AIR & WATER	
Hydraulic core	○
Hydraulic needle valve	○
Pneumatic needle valve	○
Hydraulic turning out	○
Air ejector	○
Manual air ejection (up to 8 stages)	○
Water distributor 4/5/7 circuits	○
Water battery 4/5/7 circuits	○
Water-saving valve for tool/pulse cooling	○

ELECTRICS	
Electrical - 400V, 50Hz, 3-phase	●
Servo motor & regenerative drive	●
Start button	●
Operating hours counter on the control cabinet	●
Surge protection device	●

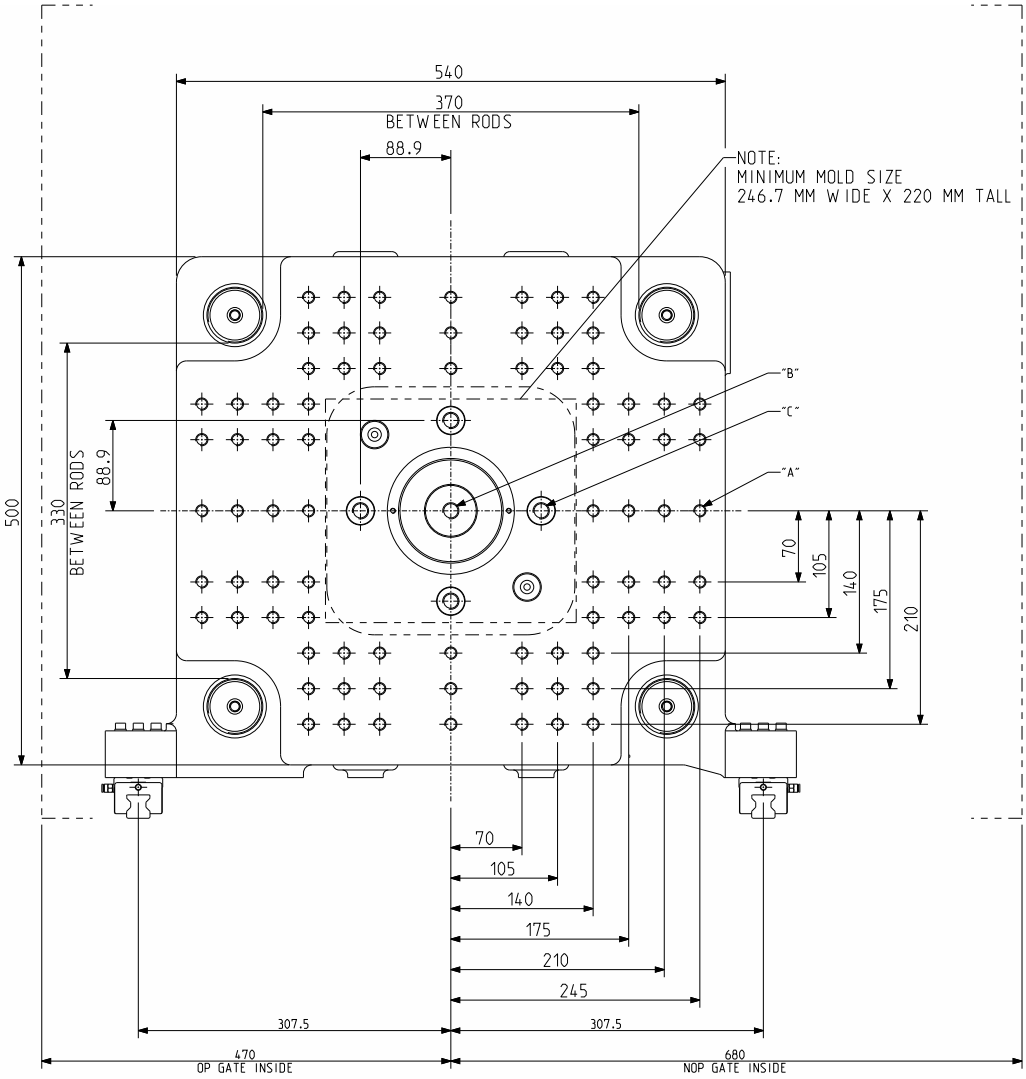
ADDITIONAL FEATURES	
Centralised Automatic Lubrication	●
High Performance Levelling pads	●
CE Safeties	●

● - Standard Feature ○ - Optional Feature

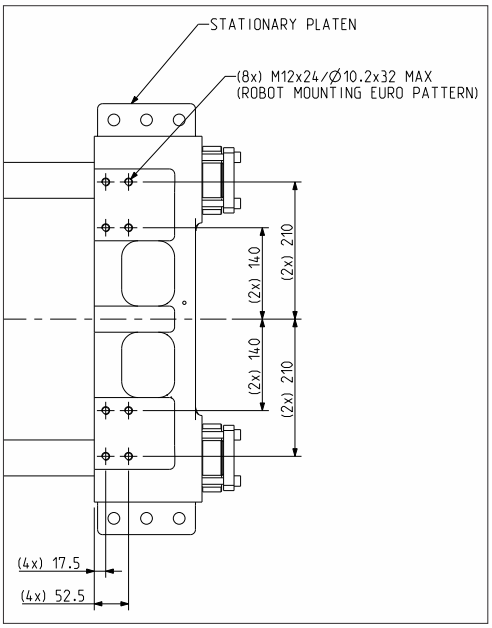
* Features not available on all models.

THE eQ-SERIES
TONNAGE: 50

Injection Unit 55, 120
TECHNICAL SPECIFICATIONS



MOVING PLATEN

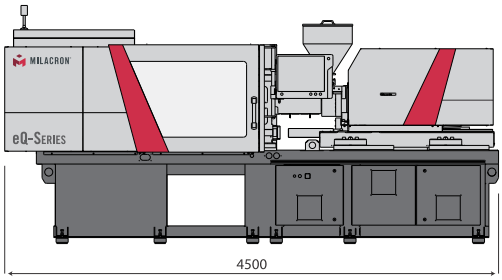


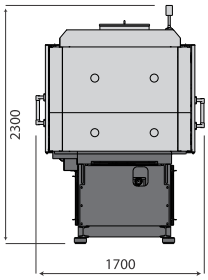
ALL DIMENSIONS ARE IN MM

A M12X24 (82) PLACES ON BOTH PLATEN

B MOVING PLATEN : Ø50 (+0.025/-0.0)
K/O BAR CENTER HOLE M16
STATIONARY PLATEN:
Ø100(+0.035/-0.0) WITH LOCATING RING,
Ø125(+0.04/-0.0) x 10(+0.15/-0.0) WITHOUT LOCATING RING

C Ø27, (4) HOLES IN MOVING PLATEN
K/O BAR M16 (4)



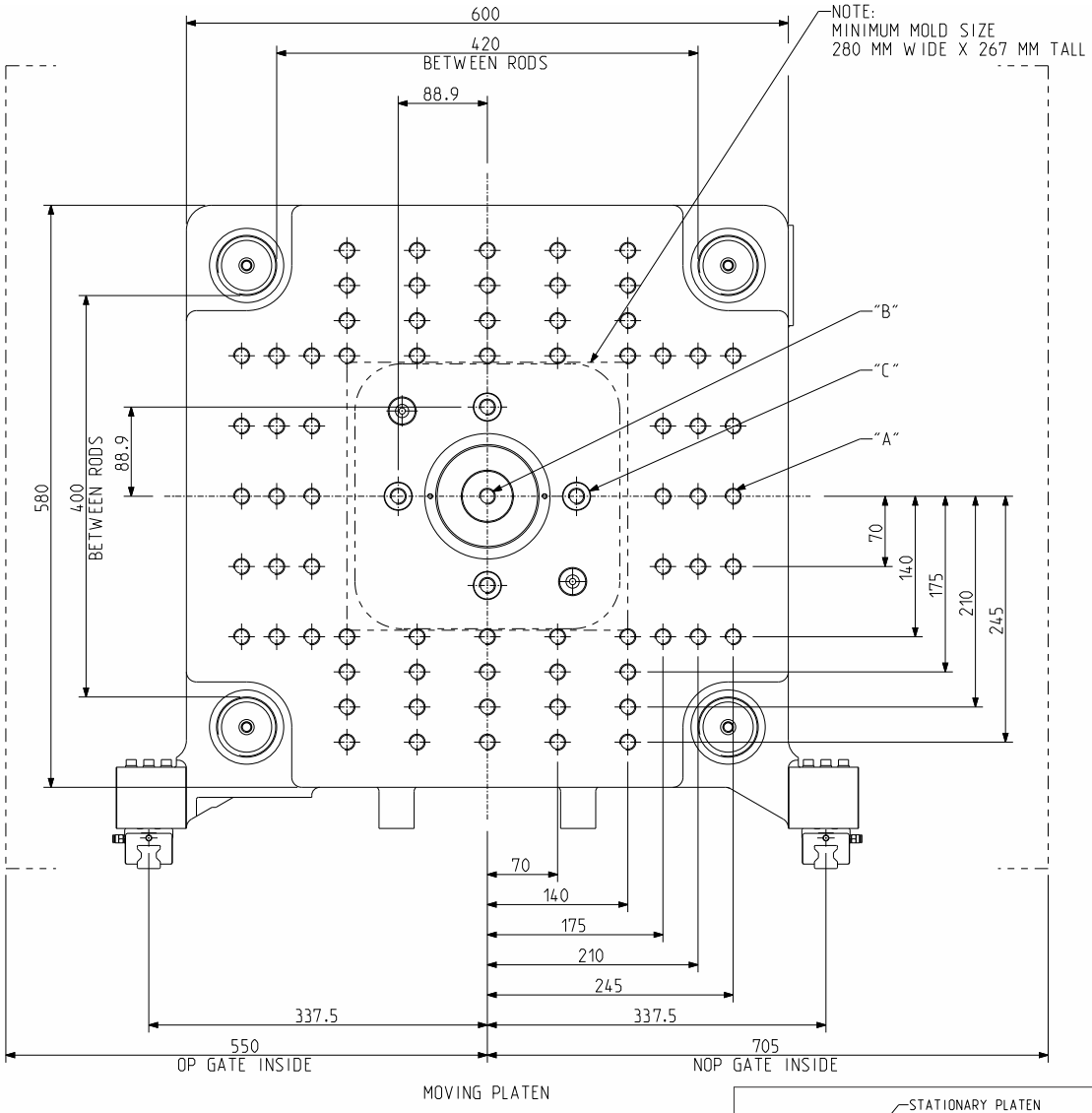


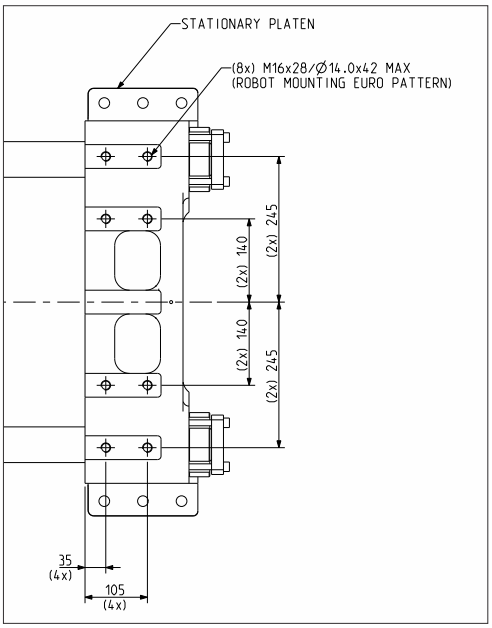
eQ-Series 50	UNIT	55			120		
	METRIC	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS							
INJECTION CAPACITY MAX. (GPPS)	g	18	23	28	29	56	81
THEORETICAL DISPLACEMENT	cm^3	19	24	29	31	59	85
INJECTION PRESSURE MAX.	bar	2500	2345	1940	2445	2016	1400
INJECTION RATE (STD) *	cm^3/s	51	64	77	52	98	142
INJECTION SPEED (STD)	mm/s	200	200	200	200	200	200
INJECTION RATE (HIGH) *	cm^3/s	89	112	135	90	172	248
INJECTION SPEED (HIGH)	mm/s	350	350	350	350	350	350
INJECTION SCREW STROKE	mm	75	75	75	120	120	120
SCREW DIAMETER	mm	18	20	22	18	25	30
SCREW L/D RATIO		22	21	19	20	20	20
SCREW SPEED	1/min	400	400	400	400	400	400
SCREW TORQUE	Nm	145	145	145	175	175	175
PLASTICIZING RATE (GP SCREW) *	g/s	3.2	4.0	5.0	3	8	12
NOZZLE HOLDING FORCE	kN	25			25		
NO. OF THERMOCOUPLES (BAR-REL&NOZZLE)		3+1			3+1		
TOTAL HEAT CAPACITY	KW	4.9	4.9	4.9	4.6	6.7	7.9
CLAMP UNIT SPECIFICATIONS							
CLAMP FORCE	kN	500			500		
CLAMP STROKE	mm	270			270		
MAXIMUM DAYLIGHT **	mm	680			680		
MINIMUM MOULD HEIGHT #	mm	150			150		
MAXIMUM MOULD HEIGHT**	mm	410			410		
PLATEN SIZE (H X V)	mm	540 X 500			540 X 500		
DISTANCE BETWEEN TIE ROD	mm	370 X 300			370 X 300		
TIE ROD DIAMETER	mm	55			55		
EJECTOR STROKE	mm	100			100		
EJECTOR FORCE	kN	30			30		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	600 (350 / 250)			600 (350 / 250)		
GENERAL							
TOTAL CONNECTED LOAD	kW	13	13	13	16	17	18
TOTAL OIL CAPACITY	L	35			35		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	30			30		
MACHINE DIMENSION (L X W X H)	m	4.5 x 1.7 x 2.3			4.5 x 1.7 x 2.3		
MACHINE WEIGHT	kg	4550			4600		

* WITH OPEN NOZZLE
# THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 150 EDL
** FOR T-SLOT OPTION, DIMENSIONS WILL BE REDUCED BY 50 MM
All machine dimensions and specifications are subject to change. Values are for reference only. These values are for standard machine power.

THE eQ-SERIES
TONNAGE: 80

Injection Unit 120, 300
TECHNICAL SPECIFICATIONS



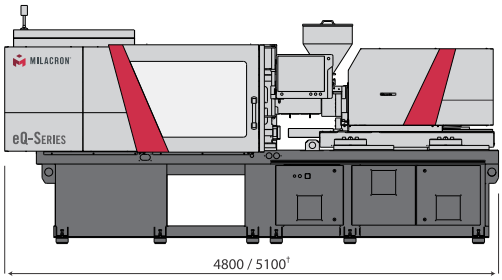


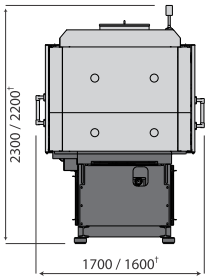
ALL DIMENSIONS ARE IN MM

A M16X32 (70) PLACES ON BOTH PLATEN

B MOVING PLATEN : Ø50 (+0.025/-0.0)
K/O BAR CENTER HOLE M16
STATIONARY PLATEN :
Ø100(+0.035/-0.0) WITH LOCATING RING,
Ø125(+0.04/-0.0) x 10(+0.15/-0.0) WITHOUT LOCATING RING

C Ø27, (4) HOLES IN MOVING PLATEN
K/O BAR M16 (4)





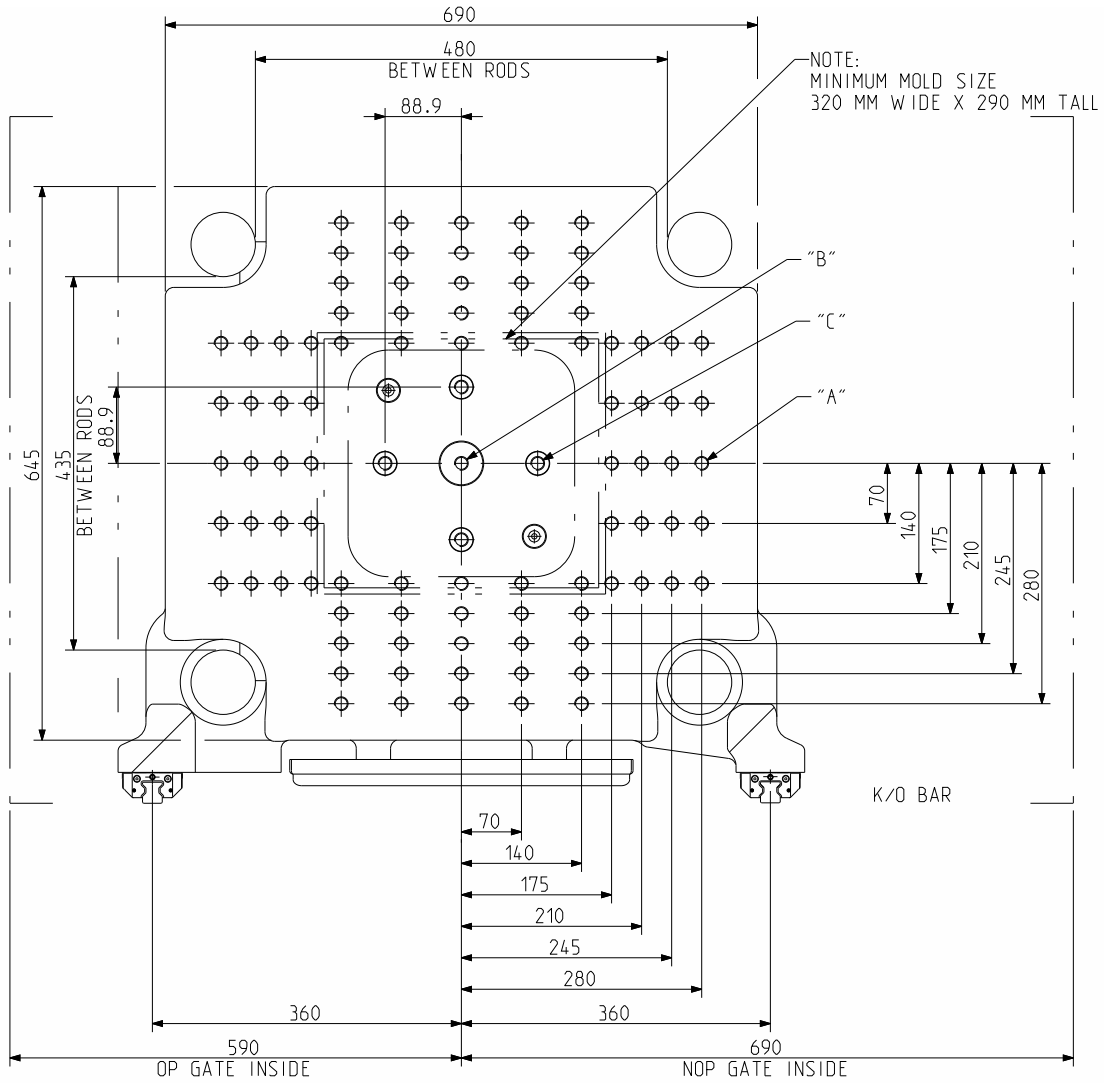
†IU 120 / 300

eQ-Series 80	UNIT	120			300		
	METRIC	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS							
INJECTION CAPACITY MAX. (GPPS)	g	29	56	81	108	146	191
THEORETICAL DISPLACEMENT	cm^3	31	59	85	113	154	201
INJECTION PRESSURE MAX.	bar	2444	2016	1400	2510	1958	1499
INJECTION RATE (STD) *	cm^3/s	52	98	142	141	193	251
INJECTION SPEED (STD)	mm/s	200	200	200	200	200	200
INJECTION RATE (HIGH) *	cm^3/s	90	172	248	247	337	440
INJECTION SPEED (HIGH)	mm/s	350	350	350	350	350	350
INJECTION SCREW STROKE	mm	120	120	120	160	160	160
SCREW DIAMETER	mm	18	25	30	30	35	40
SCREW L/D RATIO		20	20	20	26.6	22.9	20
SCREW SPEED	1/min	400	400	400	400	400	400
SCREW TORQUE	Nm	175	175	175	350	350	350
PLASTICIZING RATE (GP SCREW) *	g/s	3	8	12	13	17	24
NOZZLE HOLDING FORCE	kN	25			43		
NO. OF THERMOCOUPLES (BAR-REL&NOZZLE)		3+1			4+1		
TOTAL HEAT CAPACITY	KW	4.6	6.1	7.6	9.2		
CLAMP UNIT SPECIFICATIONS							
CLAMP FORCE	kN	800			800		
CLAMP STROKE	mm	330			330		
MAXIMUM DAYLIGHT **	mm	810			810		
MINIMUM MOULD HEIGHT #	mm	150			150		
MAXIMUM MOULD HEIGHT **	mm	480			480		
PLATEN SIZE (H X V)	mm	600 X 580			600 X 580		
DISTANCE BETWEEN TIE ROD	mm	420 X 400			420 X 400		
TIE ROD DIAMETER	mm	60			60		
EJECTOR STROKE	mm	100			100		
EJECTOR FORCE	kN	30			30		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	950 (550 / 400)			950 (550 / 400)		
GENERAL							
TOTAL CONNECTED LOAD	kW	15	16	17	21		
TOTAL OIL CAPACITY	L	35			35		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	30			30		
MACHINE DIMENSION (L X W X H)	m	4.8 x 1.7 x 2.3			5.1 x 1.6 x 2.2		
MACHINE WEIGHT	kg	4800			5000		

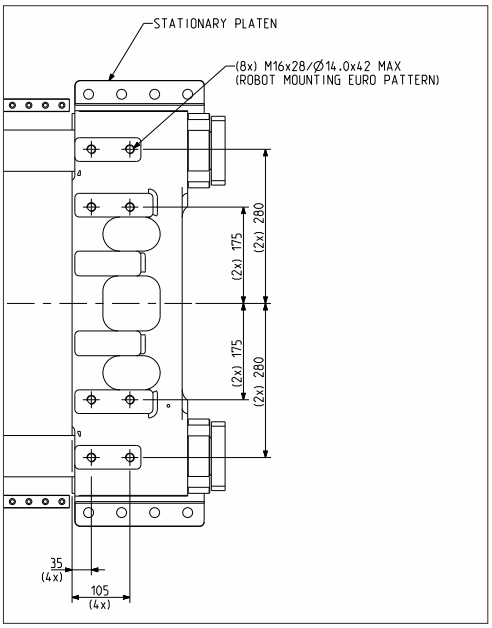
* WITH OPEN NOZZLE
# THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 200 EDL
** FOR T-SLOT OPTION, DIMENSIONS WILL BE REDUCED BY 50 MM
All machine dimensions and specifications are subject to change. Values are for reference only. These values are for standard machine power.

THE eQ-SERIES
TONNAGE: 110

Injection Unit 120, 300, 450
TECHNICAL SPECIFICATIONS



MOVING PLATEN

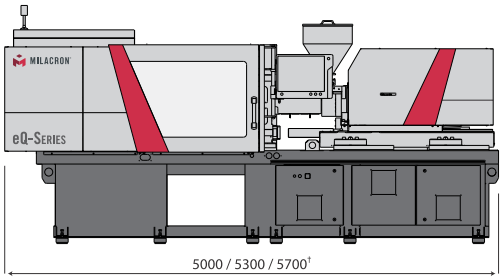


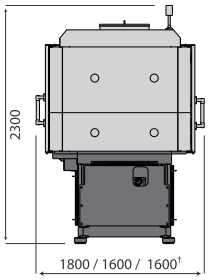
ALL DIMENSIONS ARE IN MM

A M16X32 (90) PLACES ON BOTH PLATEN

B MOVING PLATEN : Ø50 (+0.025/-0.0)
K/O BAR CENTER HOLE M16
STATIONARY PLATEN :
Ø100(+0.035/-0.0) WITH LOCATING RING,
Ø125(+0.04/-0.0) x 10(+0.15/-0.0) WITHOUT LOCATING RING

C Ø27, (4) HOLES IN MOVING PLATEN
K/O BAR M16 (4)





†IU 120 / 300 / 450

eQ-Series 110	UNIT	120			300			450		
	METRIC	A'	A	B	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS										
INJECTION CAPACITY MAX. (GPPS)	g	29	56	81	108	146	191	165	215	272
THEORETICAL DISPLACEMENT	cm³	31	59	85	113	154	201	173	226	286
INJECTION PRESSURE MAX.	bar	2444	2016	1400	2510	1958	1499	2443	1984	1568
INJECTION RATE (STD) *	cm³/s	52	98	142	141	193	251	168	220	278
INJECTION SPEED (STD)	mm/s	200	200	200	200	200	200	175	175	175
INJECTION RATE (HIGH) *	cm³/s	90	172	248	247	337	440	336	439	556
INJECTION SPEED (HIGH)	mm/s	350	350	350	350	350	350	350	350	350
INJECTION SCREW STROKE	mm	120	120	120	160	160	160	180	180	180
SCREW DIAMETER	mm	18	25	30	30	35	40	35	40	45
SCREW L/D RATIO		20	20	20	26.6	22.9	20	25.7	22.2	20
SCREW SPEED	1/min	400	400	400	400	400	400	400	400	400
SCREW TORQUE	Nm	175	175	175	350	350	350	550	550	550
PLASTICISING RATE (GP SCREW) *	g/s	3	8	12	13	17	24	18	25	34
NOZZLE HOLDING FORCE	kN	25			43			43		
NO. OF THERMOCOUPLES (BAR-REL&NOZZLE)		3+1			4+1			4+1		
TOTAL HEAT CAPACITY	KW	4.6	6.7	7.9	9.2			11.3		
CLAMP UNIT SPECIFICATIONS										
CLAMP FORCE	kN	1100			1100			1100		
CLAMP STROKE	mm	380			380			380		
MAXIMUM DAYLIGHT	mm	900			900			900		
MINIMUM MOULD HEIGHT #	mm	150			150			150		
MAXIMUM MOULD HEIGHT	mm	520			520			520		
PLATEN SIZE (H X V)	mm	690 X 645			690 X 645			690 X 645		
TIE BAR SPACING	mm	480 X 435			480 X 435			480 X 435		
TIE BAR DIAMETER	mm	75			75			75		
EJECTOR STROKE	mm	140			140			140		
EJECTOR FORCE	kN	32			32			32		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	1540 (770 / 770)			1540 (770 / 770)			1540 (770 / 770)		
GENERAL										
TOTAL CONNECTED LOAD	kW	16	17	18	21			24		
TOTAL OIL CAPACITY	L	35			35			35		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	30			30			30		
MACHINE DIMENSION (L X W X H)	m	5.0 x 1.8 x 2.3			5.3 x 1.6 x 2.3			5.7 x 1.6 x 2.3		
MACHINE WEIGHT	kg	5800			5900			6400		

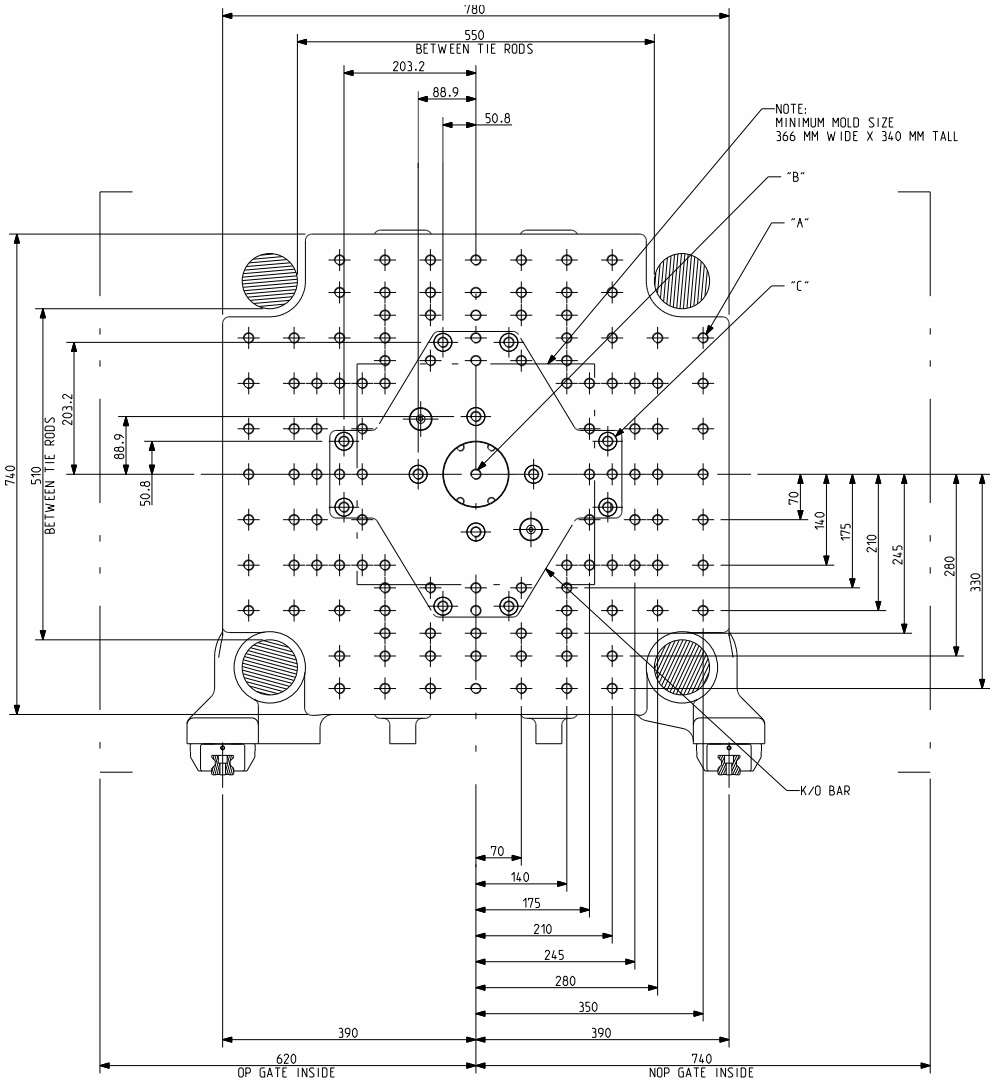
* WITH OPEN NOZZLE

THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 250 EDL

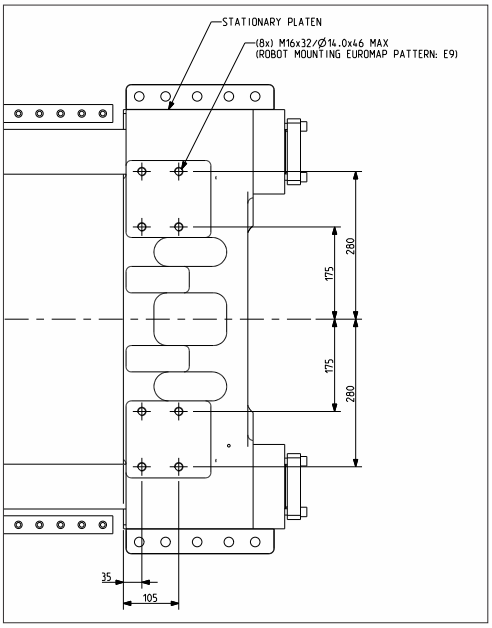
All machine dimensions and specifications are subject to change. Values are for reference only. These values are for standard machine power.

THE eQ-SERIES
TONNAGE: 150

Injection Unit 300, 450, 630
TECHNICAL SPECIFICATIONS



MOVING PLATEN

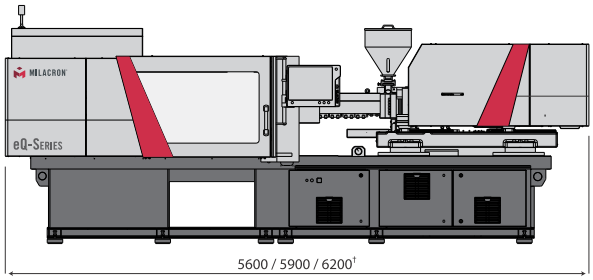


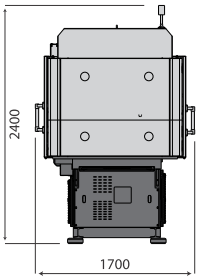
ALL DIMENSIONS ARE IN MM

A) M16X32 (116) PLACES ON BOTH PLATEN

B) MOVING PLATEN : Ø100 (+0.035/-0.0)
K/O BAR CENTER HOLE M16x40
STATIONARY PLATEN :
Ø125 (+0.04/-0.0) WITH LOCATING RING,
Ø160(+0.04/-0.0) x 10(+0.15/-0.0) WITHOUT LOCATING RING.

C) Ø27, (12) HOLES IN MOVING PLATEN
K/O BAR M16x40 (12)





†IU 300 / 450 / 630

eQ-Series 150	UNIT	300			450			630		
	METRIC	A'	A	B	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS										
INJECTION CAPACITY MAX. (GPPS)	g	108	146	191	165	215	272	239	303	374
THEORETICAL DISPLACEMENT	cm^3	113	154	201	173	226	286	251	318	393
INJECTION PRESSURE MAX.	bar	2510	1958	1499	2443	1984	1568	2492	1969	1595
INJECTION RATE (STD) *	cm^3/s	141	193	251	168	220	278	220	278	344
INJECTION SPEED (STD)	mm/s	200	200	200	175	175	175	175	175	175
INJECTION RATE (HIGH) *	cm^3/s	247	337	440	336	439	556	415	525	648
INJECTION SPEED (HIGH)	mm/s	350	350	350	350	350	350	330	330	330
INJECTION SCREW STROKE	mm	160	160	160	180	180	180	200	200	200
SCREW DIAMETER	mm	30	35	40	35	40	45	40	45	50
SCREW L/D RATIO		26.6	22.9	20	25.7	22.2	20	25	22.2	20
SCREW SPEED	1/min	400	400	400	400	400	400	400	400	400
SCREW TORQUE	Nm	350	350	350	550	550	550	700	700	700
PLASTICISING RATE (GP SCREW) *	g/s	13	17	24	18	25	34	25	34	45
NOZZLE HOLDING FORCE	kN	43			43			43		
NO. OF THERMOCOUPLES (BARREL&NOZZLE)		4+1			4+1			4+1		
TOTAL HEAT CAPACITY	KW	9.2			11.3			15.7		
CLAMP UNIT SPECIFICATIONS										
CLAMP FORCE	kN	1500			1500			1500		
CLAMP STROKE	mm	460			460			460		
MAXIMUM DAYLIGHT	mm	1060			1060			1060		
MINIMUM MOULD HEIGHT #	mm	200			200			200		
MAXIMUM MOULD HEIGHT	mm	600			600			600		
PLATEN SIZE (H X V)	mm	780 X 740			780 X 740			780 X 740		
TIE BAR SPACING	mm	550 X 510			550 X 510			550 X 510		
TIE BAR DIAMETER	mm	85			85			85		
EJECTOR STROKE	mm	160			160			160		
EJECTOR FORCE	kN	40			40			40		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	2300 (1100 / 1200)			2300 (1100 / 1200)			2300 (1100 / 1200)		
GENERAL										
TOTAL CONNECTED LOAD	kW	21			24			31		
TOTAL OIL CAPACITY	L	35			35			35		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	30			30			30		
MACHINE DIMENSION (L X W X H)	m	5.6 x 1.7 x 2.4			5.9 x 1.7 x 2.4			6.2 x 1.7 x 2.4		
MACHINE WEIGHT	kg	7300			7700			8100		

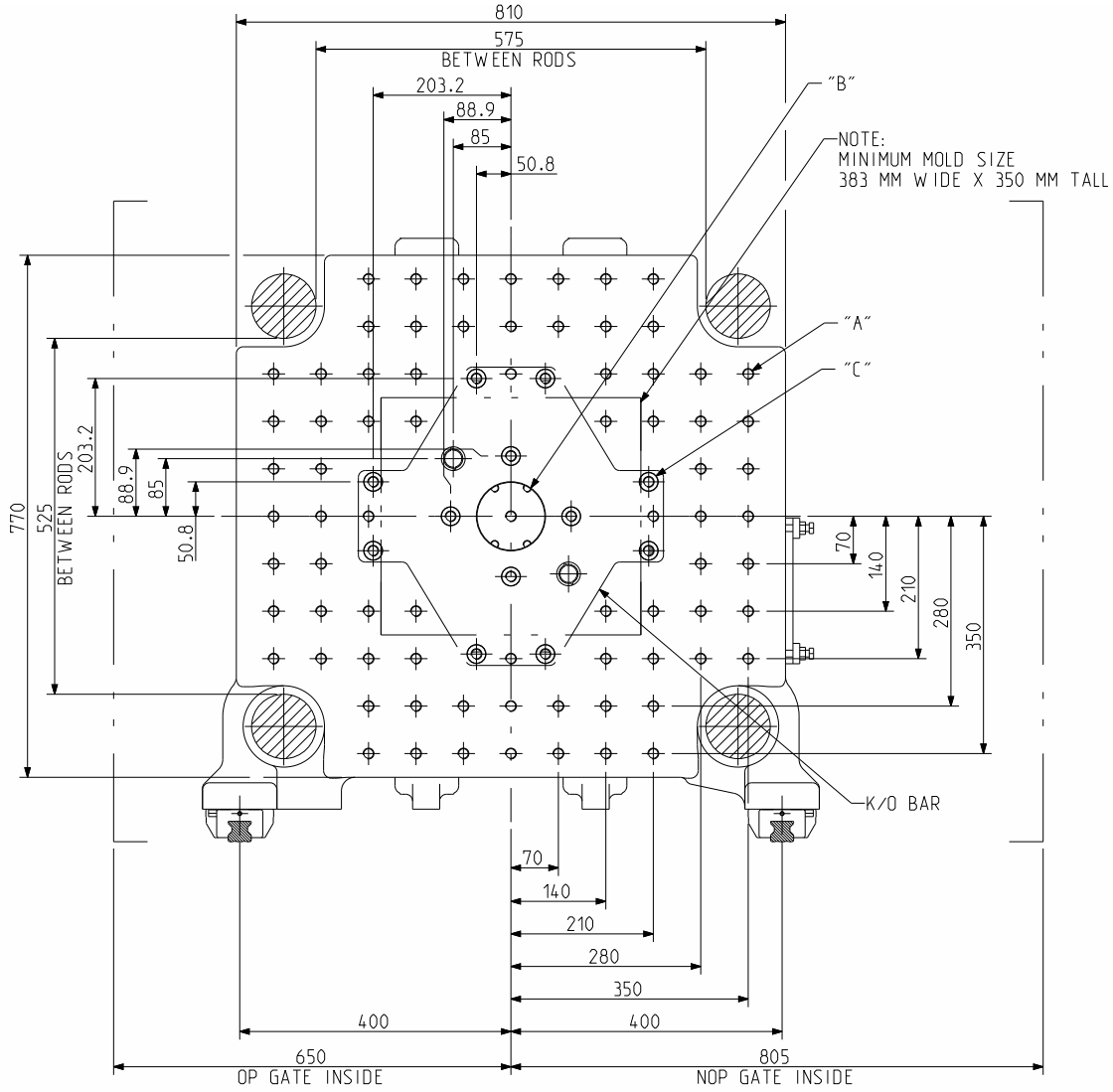
* WITH OPEN NOZZLE

THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 300 EDL

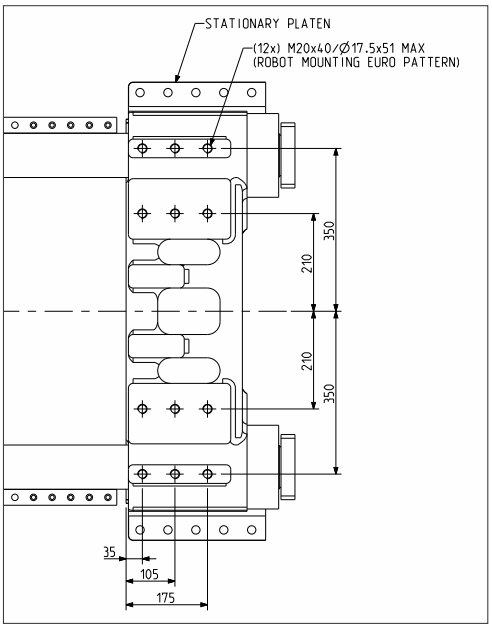
All machine dimensions and specifications are subject to change. Values are for reference only. These values are for standard machine power.

THE eQ-SERIES
TONNAGE: 180

Injection Unit 450, 630, 970
TECHNICAL SPECIFICATIONS



MOVING PLATEN

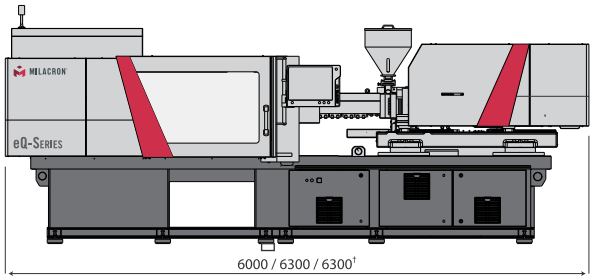


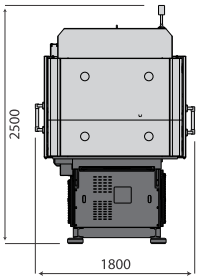
ALL DIMENSIONS ARE IN MM

A) MOVING PLATEN : M16X32 (76)
STATIONARY PLATEN : M16X32 (84)

B) MOVING PLATEN : Ø100 (+0.035/-0.0)
K/O BAR CENTER HOLE M16x40
STATIONARY PLATEN :
Ø125 (+0.04/-0.0) WITH LOCATING RING,
Ø160(+0.04/-0.0) x 10(+0.15/-0.0) WITHOUT LOCATING RING.

C) Ø27, (12) HOLES IN MOVING PLATEN
K/O BAR M16x40 (12)





†IU 450 / 630 / 970

eQ-Series 180	UNIT	450			630			970		
	METRIC	A'	A	B	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS										
INJECTION CAPACITY MAX. (GPPS)	g	165	215	272	239	303	374	363	448	646
THEORETICAL DISPLACEMENT	cm^3	173	226	286	251	318	393	382	471	679
INJECTION PRESSURE MAX.	bar	2443	1984	1568	2492	1969	1595	2249	2057	1428
INJECTION RATE (STD) *	cm^3/s	168	220	278	220	278	344	279	343	495
INJECTION SPEED (STD)	mm/s	175	175	175	175	175	175	175	175	175
INJECTION RATE (HIGH) *	cm^3/s	336	439	556	415	525	648	525	648	934
INJECTION SPEED (HIGH)	mm/s	350	350	350	330	330	330	330	330	330
INJECTION SCREW STROKE	mm	180	180	180	200	200	200	240	240	240
SCREW DIAMETER	mm	35	40	45	40	45	50	45	50	60
SCREW L/D RATIO		25.7	22.2	20	25	22.2	20	26.7	24	20
SCREW SPEED	1/min	400	400	400	400	400	400	350	350	320
SCREW TORQUE	Nm	550	550	550	700	700	700	1100	1100	1100
PLASTICISING RATE (GP SCREW) *	g/s	18	25	34	25	34	45	30	39	58
NOZZLE HOLDING FORCE	kN	43			43			61		
NO. OF THERMOCOUPLES (BARREL&NOZZLE)		4+1			4+1			4+1		
TOTAL HEAT CAPACITY	KW	11.3			15.7			16.9		
CLAMP UNIT SPECIFICATIONS										
CLAMP FORCE	kN	1800			1800			1800		
CLAMP STROKE	mm	500			500			500		
MAXIMUM DAYLIGHT	mm	1100			1100			1100		
MINIMUM MOULD HEIGHT #	mm	200			200			200		
MAXIMUM MOULD HEIGHT	mm	600			600			600		
PLATEN SIZE (H X V)	mm	810 x 770			810 x 770			810 x 770		
TIE BAR SPACING	mm	575 x 525			575 x 525			575 x 525		
TIE BAR DIAMETER	mm	95			95			95		
EJECTOR STROKE	mm	160			160			160		
EJECTOR FORCE	kN	40			40			40		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	2500 (1200 / 1300)			2500 (1200 / 1300)			2500 (1200 / 1300)		
GENERAL										
TOTAL CONNECTED LOAD	kW	24			31			37		
TOTAL OIL CAPACITY	L	35			35			55		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	30			30			30		
MACHINE DIMENSION (L X W X H)	m	6.0 x 1.8 x 2.5			6.3 x 1.8 x 2.5			6.3 x 1.8 x 2.5		
MACHINE WEIGHT	kg	8500			8900			11000		

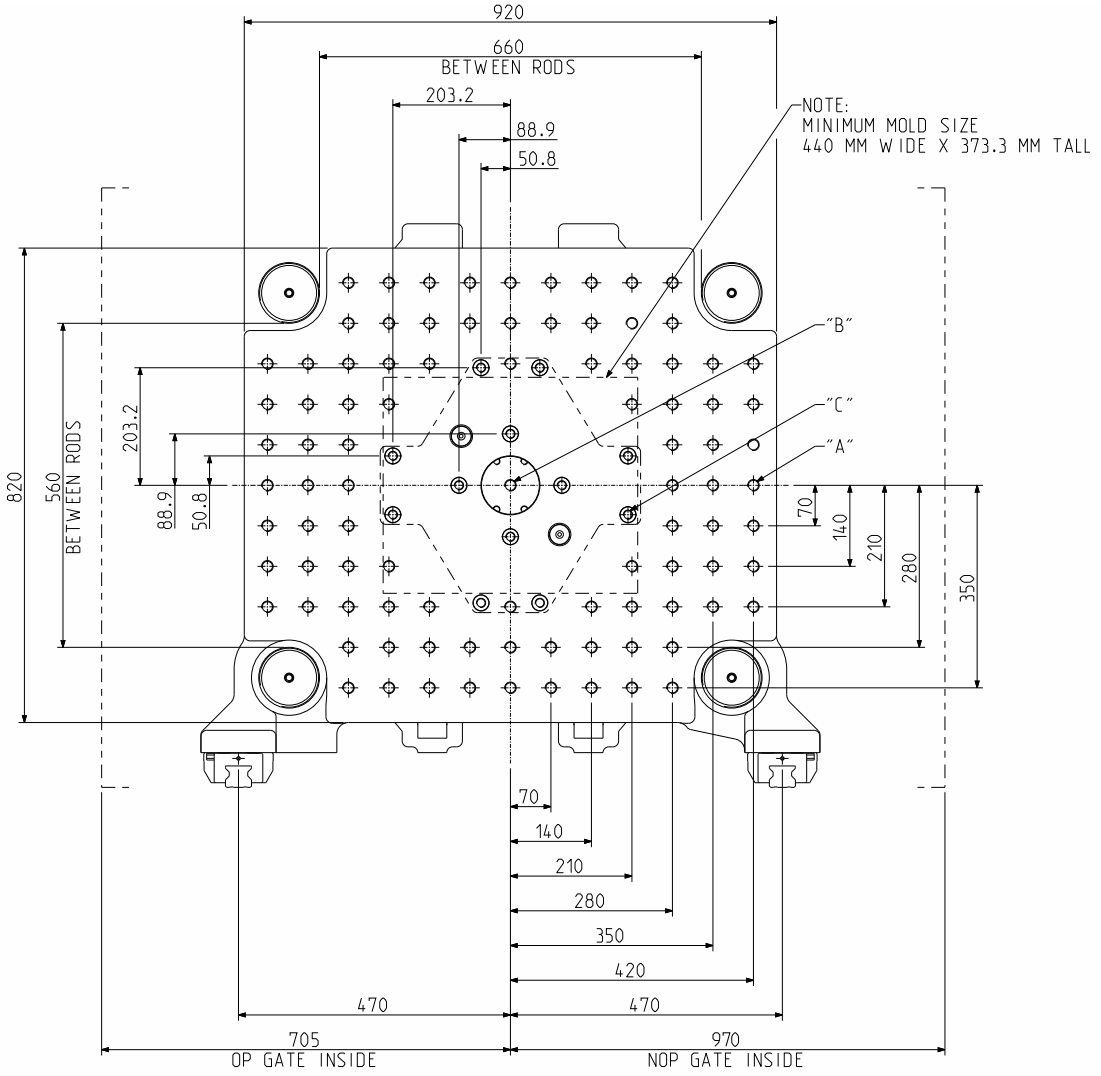
* WITH OPEN NOZZLE

THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 300 EDL

All machine dimensions and specifications are subject to change. Values are for reference only. These values are for standard machine power.

THE eQ-SERIES
TONNAGE: 230

Injection Unit 450, 630, 970
TECHNICAL SPECIFICATIONS



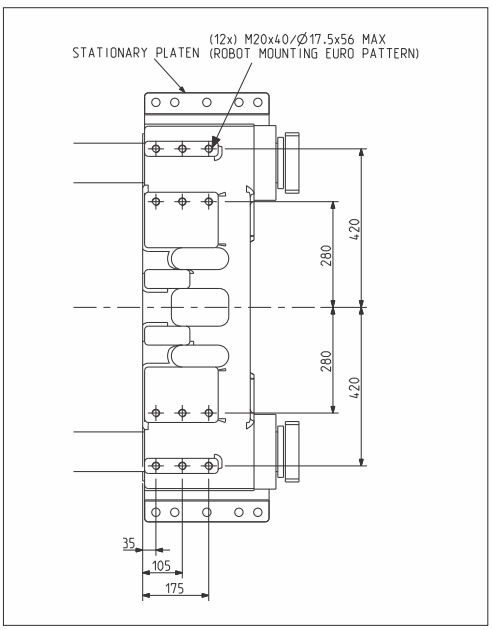
MOVING PLATEN

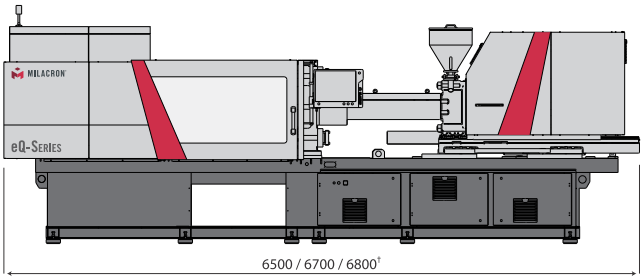
L DIMENSIONS ARE IN MM

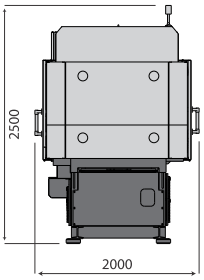
MOVING PLATEN : M20X45 (92)
STATIONARY PLATEN : M20X45 (96)

MOVING PLATEN : Ø100 (+0.035/-0.0)
K/O BAR CENTER HOLE M20x50
STATIONARY PLATEN :
Ø125 (+0.04/-0.0) WITH LOCATING RING,
Ø160(+0.04/-0.0) x 10(+0.15/-0.0) WITHOUT LOCATING RI

Ø27, (12) HOLES IN MOVING PLATEN
K/O BAR M16x40 (12)







†IU 450 / 630 / 970

eQ-Series 230	UNIT	450			630			970		
	METRIC	A'	A	B	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS										
INJECTION CAPACITY MAX. (GPPS)	g	165	215	272	239	303	374	363	448	646
THEORETICAL DISPLACEMENT	cm^3	173	226	286	251	318	393	382	471	679
INJECTION PRESSURE MAX.	bar	2443	1984	1568	2492	1969	1595	2249	2057	1428
INJECTION RATE (STD) *	cm^3/s	168	220	278	220	278	344	279	343	495
INJECTION SPEED (STD)	mm/s	175	175	175	175	175	175	175	175	175
INJECTION RATE (HIGH) *	cm^3/s	336	439	556	415	525	648	525	648	934
INJECTION SPEED (HIGH)	mm/s	350	350	350	330	330	330	330	330	330
INJECTION SCREW STROKE	mm	180	180	180	200	200	200	240	240	240
SCREW DIAMETER	mm	35	40	45	40	45	50	45	50	60
SCREW L/D RATIO		25.7	22.2	20	25	22.2	20	26.7	24	20
SCREW SPEED	1/min	400	400	400	400	400	400	350	350	320
SCREW TORQUE	Nm	550	550	550	700	700	700	1100	1100	1100
PLASTICISING RATE (GP SCREW) *	g/s	18	25	34	25	34	45	30	39	58
NOZZLE HOLDING FORCE	kN	43			43			61		
NO. OF THERMOCOUPLES (BARREL&NOZZLE)		4+1			4+1			4+1		
TOTAL HEAT CAPACITY	KW	11.3			15.7			16.9		
CLAMP UNIT SPECIFICATIONS										
CLAMP FORCE	kN	2300			2300			2300		
CLAMP STROKE	mm	550			550			550		
MAXIMUM DAYLIGHT	mm	1260			1260			1260		
MINIMUM MOULD HEIGHT #	mm	200			200			200		
MAXIMUM MOULD HEIGHT	mm	710			710			710		
PLATEN SIZE (H X V)	mm	920 x 820			920 x 820			920 x 820		
TIE BAR SPACING	mm	660 x 560			660 x 560			660 x 560		
TIE BAR DIAMETER	mm	105			105			105		
EJECTOR STROKE	mm	180			180			180		
EJECTOR FORCE	kN	60			60			60		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	3200 (1500 / 1700)			3200 (1500 / 1700)			3200 (1500 / 1700)		
GENERAL										
TOTAL CONNECTED LOAD	kW	28			34			42		
TOTAL OIL CAPACITY	L	140			140			140		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	43			43			43		
MACHINE DIMENSION (L X W X H)	m	6.5 x 2.0 x 2.5			6.7 x 2.0 x 2.5			6.8 x 2.0 x 2.5		
MACHINE WEIGHT	kg	10800			11200			12800		

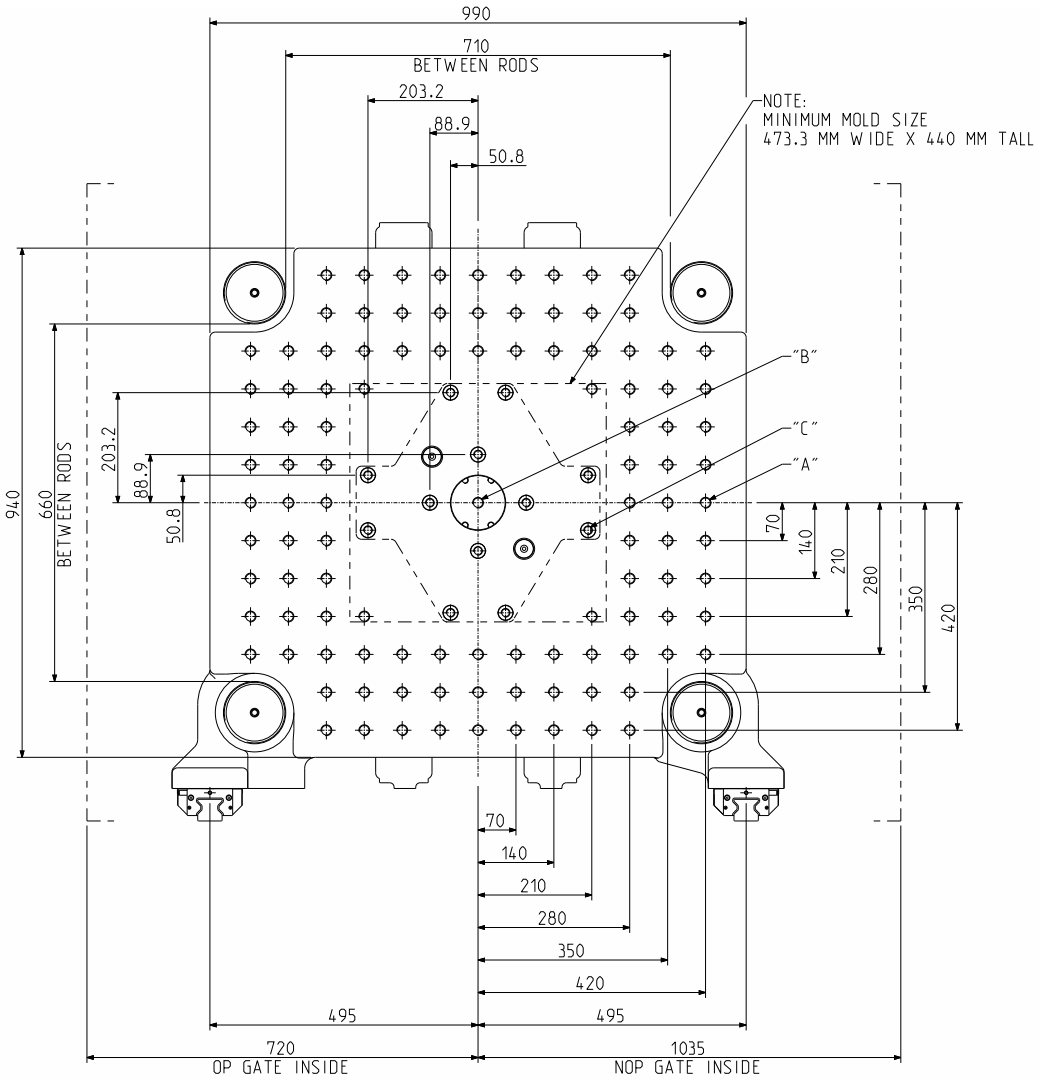
* WITH OPEN NOZZLE

THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 400 EDL

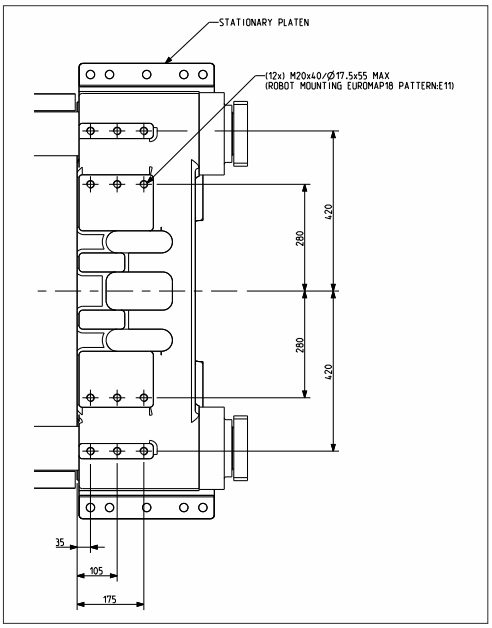
All machine dimensions and specifications are subject to change. Values are for reference only. These values are for standard machine power.

THE eQ-SERIES
TONNAGE: 280

Injection Unit 630, 970, 1540
TECHNICAL SPECIFICATIONS



MOVING PLATEN

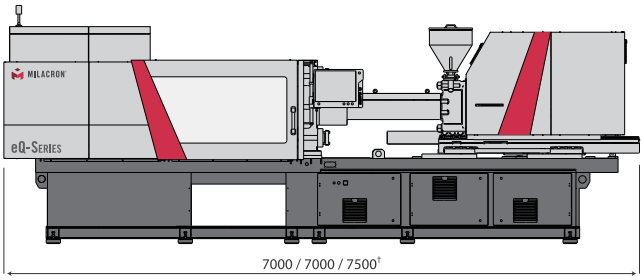


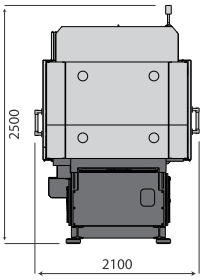
ALL DIMENSIONS ARE IN MM

A) M20X45 (108) PLACES ON BOTH PLATEN

B) MOVING PLATEN : Ø100 (+0.035/-0.0)
K/O BAR CENTER HOLE M20x50
STATIONARY PLATEN :
Ø125 (+0.04/-0.0) WITH LOCATING RING,
Ø160(+0.04/-0.0) x 10(+0.15/-0.0) WITHOUT LOCATING RING.

C) Ø27, (12) HOLES IN MOVING PLATEN
K/O BAR M16x40 (12)





†IU 630 / 970 / 1540

eQ-Series 280	UNIT	630			970			1540		
	METRIC	A'	A	B	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS										
INJECTION CAPACITY MAX. (GPPS)	g	239	303	374	363	448	646	523	753	1025
THEORETICAL DISPLACEMENT	cm^3	251	318	393	382	471	679	550	792	1078
INJECTION PRESSURE MAX.	bar	2492	1969	1595	2249	2057	1428	2236	1941	1426
INJECTION RATE (STD) *	cm^3/s	220	278	344	279	343	495	314	453	616
INJECTION SPEED (STD)	mm/s	175	175	175	175	175	175	160	160	160
INJECTION RATE (HIGH) *	cm^3/s	415	525	648	525	648	934	589	849	1155
INJECTION SPEED (HIGH)	mm/s	330	330	330	330	330	330	300	300	300
INJECTION SCREW STROKE	mm	200	200	200	240	240	240	280	280	280
SCREW DIAMETER	mm	40	45	50	45	50	60	50	60	70
SCREW L/D RATIO		25	22.2	20	26.7	24	20	28	23.3	20
SCREW SPEED	1/min	400	400	400	350	350	320	350	320	275
SCREW TORQUE	Nm	700	700	700	1100	1100	1100	1600	1600	1600
PLASTICISING RATE (GP SCREW) *	g/s	25	34	45	30	39	58	40	58	77
NOZZLE HOLDING FORCE	kN	43			61			61		
NO. OF THERMOCOUPLES (BAR-REL&NOZZLE)		4+1			4+1			4+1		
TOTAL HEAT CAPACITY	KW	15.7			16.9			24.9		
CLAMP UNIT SPECIFICATIONS										
CLAMP FORCE	kN	2800			2800			2800		
CLAMP STROKE	mm	650			650			650		
MAXIMUM DAYLIGHT	mm	1400			1400			1400		
MINIMUM MOULD HEIGHT #	mm	250			250			250		
MAXIMUM MOULD HEIGHT	mm	750			750			750		
PLATEN SIZE (H X V)	mm	990 x 940			990 x 940			990 x 940		
TIE BAR SPACING	mm	710 x 660			710 x 660			710 x 660		
TIE BAR DIAMETER	mm	115			115			115		
EJECTOR STROKE	mm	180			180			180		
EJECTOR FORCE	kN	60			60			60		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	4400 (1900 / 2500)			4400 (1900 / 2500)			4400 (1900 / 2500)		
GENERAL										
TOTAL CONNECTED LOAD	kW	34			43			53		
TOTAL OIL CAPACITY	L	140			140			140		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	43			43			43		
MACHINE DIMENSION (L X W X H)	m	7.0 x 2.1 x 2.5			7.0 x 2.1 x 2.5			7.5 x 2.1 x 2.5		
MACHINE WEIGHT	kg	12700			15000			15400		

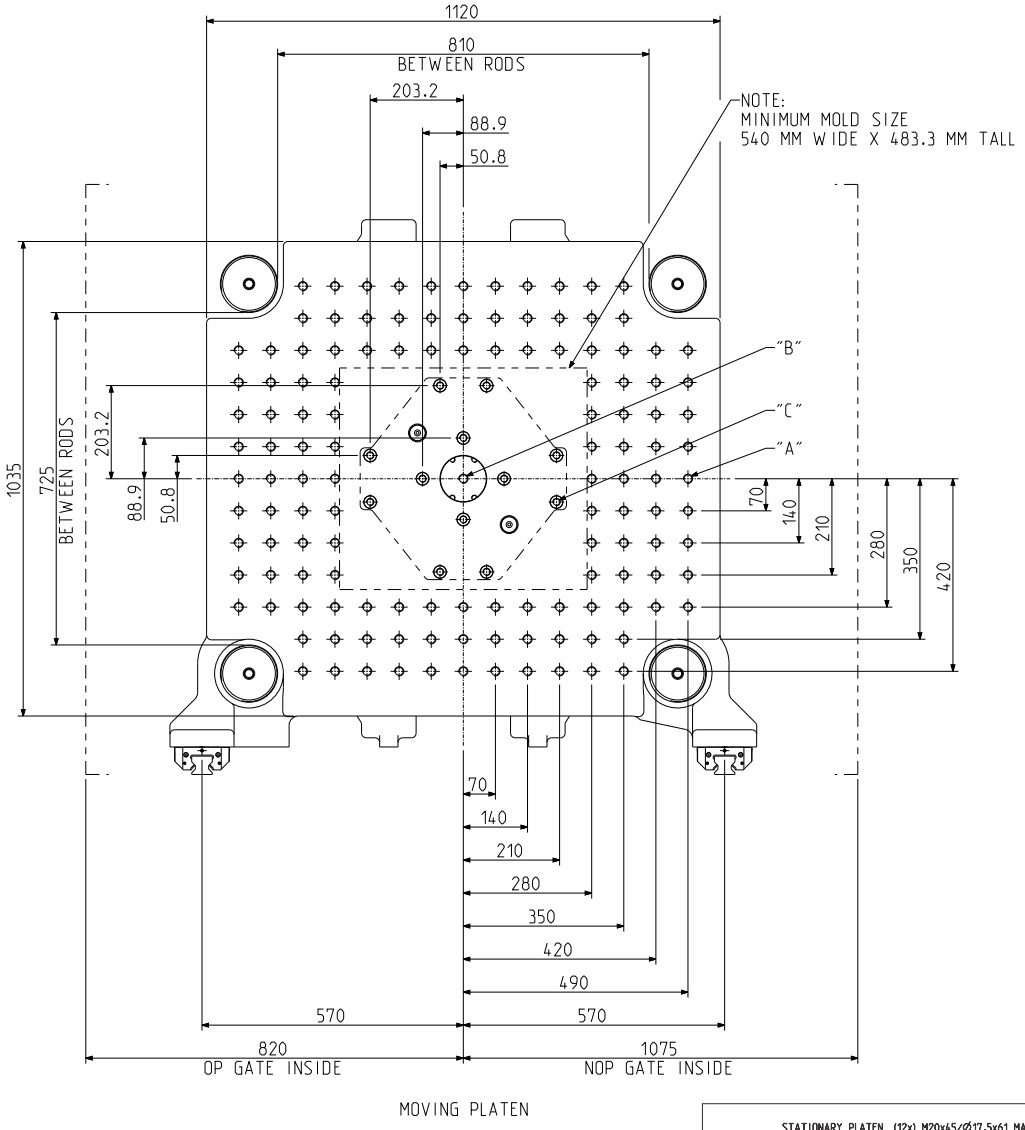
* WITH OPEN NOZZLE

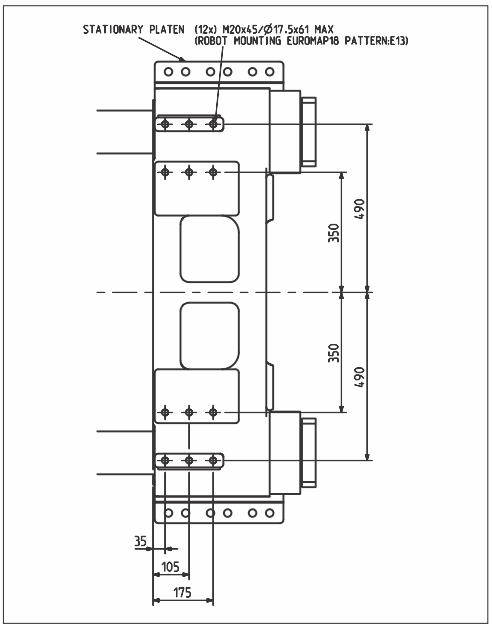
THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 400 EDL

All machine dimensions and specifications are subject to change. Values are for reference only. These values are for standard machine power.

THE eQ-SERIES
TONNAGE: 350

Injection Unit 970, 1540, 2290
TECHNICAL SPECIFICATIONS



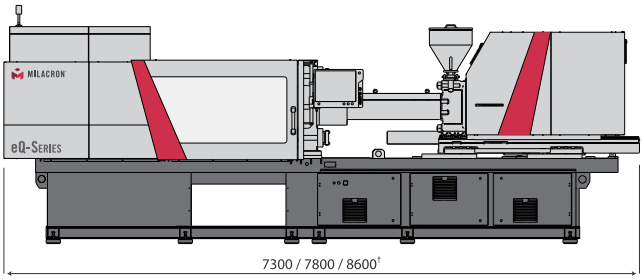


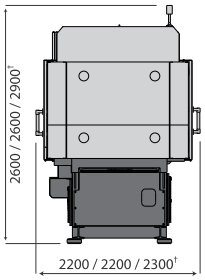
ALL DIMENSIONS ARE IN MM

A) M20X45 (130) PLACES ON BOTH PLATEN

B) MOVING PLATEN : Ø100 (+0.035/-0.0)
K/O BAR CENTER HOLE M20x50
STATIONARY PLATEN :
Ø160 (+0.04/-0.0) WITH LOCATING RING,
Ø200(+0.046/-0.0) x 10(+0.15/-0.0) WITHOUT LOCATING RING.

C) Ø27, (12) HOLES IN MOVING PLATEN
K/O BAR M16x45 (12)





†IU 970 / 1540 / 2290

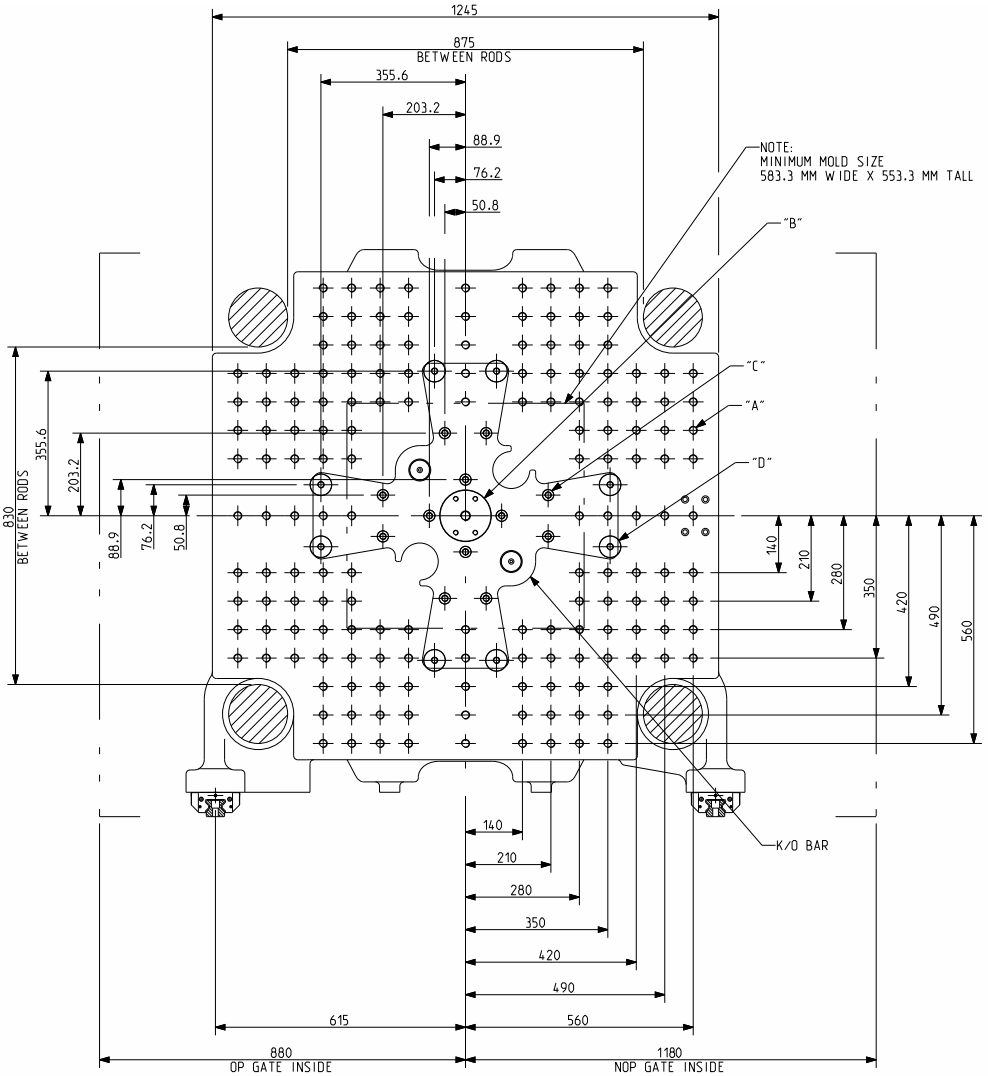
eQ-Series 350	UNIT	970			1540			2290		
	METRIC	A'	A	B	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS										
INJECTION CAPACITY MAX. (GPPS)	g	363	448	646	523	753	1025	861	1172	1530
THEORETICAL DISPLACEMENT	cm³	382	471	679	550	792	1078	905	1232	1608
INJECTION PRESSURE MAX.	bar	2249	2057	1428	2236	1941	1426	2238	1856	1421
INJECTION RATE (STD) *	cm³/s	279	343	495	314	453	616	424	578	754
INJECTION SPEED (STD)	mm/s	175	175	175	160	160	160	150	150	150
INJECTION RATE (HIGH) *	cm³/s	525	648	934	589	849	1155	792	1078	1407
INJECTION SPEED (HIGH)	mm/s	330	330	330	300	300	300	280	280	280
INJECTION SCREW STROKE	mm	240	240	240	280	280	280	320	320	320
SCREW DIAMETER	mm	45	50	60	50	60	70	60	70	80
SCREW L/D RATIO		26.7	24	20	28	23.3	20	26.7	22.9	20
SCREW SPEED	1/min	350	350	320	350	320	275	300	275	240
SCREW TORQUE	Nm	1100	1100	1100	1600	1600	1600	2600	2600	2600
PLASTICISING RATE (GP SCREW) *	g/s	30	39	58	40	58	77	54	77	93
NOZZLE HOLDING FORCE	kN	61			61			100		
NO. OF THERMOCOUPLES (BAR-REL&NOZZLE)		4+1			4+1			4+1		
TOTAL HEAT CAPACITY	KW	16.9			24.9			39.6		
CLAMP UNIT SPECIFICATIONS										
CLAMP FORCE	kN	3500			3500			3500		
CLAMP STROKE	mm	720			720			720		
MAXIMUM DAYLIGHT	mm	1520			1520			1520		
MINIMUM MOULD HEIGHT #	mm	300			300			300		
MAXIMUM MOULD HEIGHT	mm	800			800			800		
PLATEN SIZE (H X V)	mm	1120 x 1035			1120 x 1035			1120 x 1035		
TIE BAR SPACING	mm	810 x 725			810 x 725			810 x 725		
TIE BAR DIAMETER	mm	125			125			125		
EJECTOR STROKE	mm	200			200			200		
EJECTOR FORCE	kN	75			75			75		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	6000 (2700 / 3300)			6000 (2700 / 3300)			6000 (2700 / 3300)		
GENERAL										
TOTAL CONNECTED LOAD	kW	44			54			67		
TOTAL OIL CAPACITY	L	140			140			140		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	43			43			43		
MACHINE DIMENSION (L X W X H)	m	7.3 x 2.2 x 2.6			7.8 x 2.2 x 2.6			8.6 x 2.3 x 2.9		
MACHINE WEIGHT	kg	18400			18900			21300		

* WITH OPEN NOZZLE
# THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 250 EDL
All machine dimensions and specifications are subject to change. Values are for reference only. These values are for standard machine power.

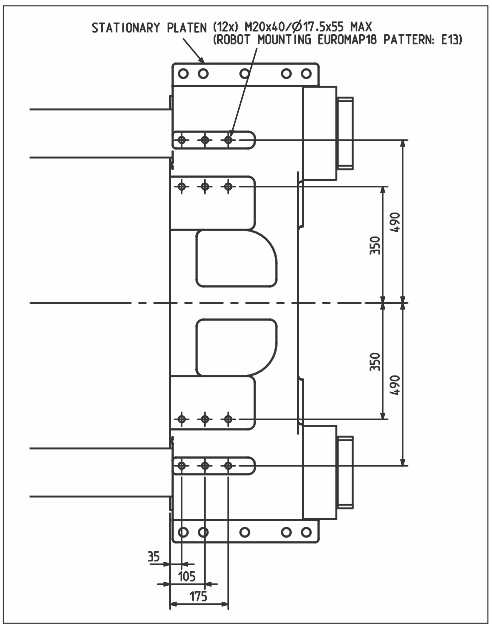
THE eQ-SERIES
TONNAGE: 450

Injection Unit 1540, 2290, 3470

TECHNICAL SPECIFICATIONS



MOVING PLATEN



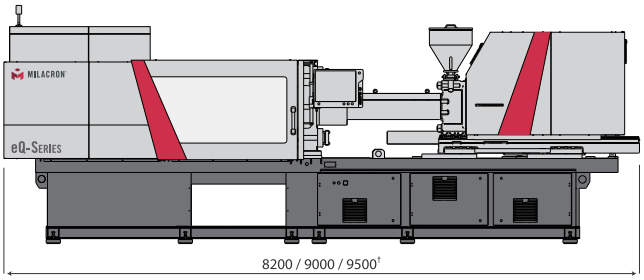
ALL DIMENSIONS ARE IN MM

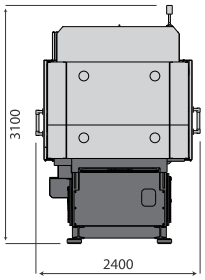
A) M20X45 (164) PLACES ON BOTH PLATEN

B) MOVING PLATEN : Ø125 (+0.035/-0.0)
K/O BAR CENTER HOLE M24x43
STATIONARY PLATEN :
Ø160 (+0.04/-0.0) WITH LOCATING RING,
Ø200(+0.046/-0.0) x 10(+0.15/-0.0) WITHOUT LOCATING RING.

C) Ø27, (12) HOLES IN MOVING PLATEN
K/O BAR M16x40 (12)

D) Ø52,4 (8)





†IU 1540 / 2290 / 3470

eQ-Series 450	UNIT	1540			2290			3470		
	METRIC	A'	A	B	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS										
INJECTION CAPACITY MAX. (GPPS)	g	523	753	1025	861	1172	1530	1318	1722	2179
THEORETICAL DISPLACEMENT	cm^3	550	792	1078	905	1232	1608	1385	1810	2290
INJECTION PRESSURE MAX.	bar	2236	1941	1426	2238	1856	1421	2289	1917	1515
INJECTION RATE (STD) *	cm^3/s	314	453	616	424	578	754	577	754	954
INJECTION SPEED (STD)	mm/s	160	160	160	150	150	150	150	150	150
INJECTION RATE (HIGH) *	cm^3/s	589	849	1155	792	1078	1407	962	1257	1590
INJECTION SPEED (HIGH)	mm/s	300	300	300	280	280	280	250	250	250
INJECTION SCREW STROKE	mm	280	280	280	320	320	320	360	360	360
SCREW DIAMETER	mm	50	60	70	60	70	80	70	80	90
SCREW L/D RATIO		28	23.3	20	26.7	22.9	20	25.7	22.5	20
SCREW SPEED	1/min	350	320	275	300	275	240	215	215	215
SCREW TORQUE	Nm	1600	1600	1600	2600	2600	2600	3000	3000	3000
PLASTICISING RATE (GP SCREW) *	g/s	40	58	77	54	77	93	60	83	111
NOZZLE HOLDING FORCE	kN	61			61			100		
NO. OF THERMOCOUPLES (BAR-REL&NOZZLE)		4+1			4+1			4+1		
TOTAL HEAT CAPACITY	KW	24.9			39.6			39.6		
CLAMP UNIT SPECIFICATIONS										
CLAMP FORCE	kN	4500			4500			4500		
CLAMP STROKE	mm	850			850			850		
MAXIMUM DAYLIGHT	mm	1670			1670			1670		
MINIMUM MOULD HEIGHT #	mm	350			350			350		
MAXIMUM MOULD HEIGHT	mm	820			820			820		
PLATEN SIZE (H X V)	mm	1245 x 1200			1245 x 1200			1245 x 1200		
TIE BAR SPACING	mm	875 x 830			875 x 830			875 x 830		
TIE BAR DIAMETER	mm	145			145			145		
EJECTOR STROKE	mm	230			230			230		
EJECTOR FORCE	kN	100			100			100		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	8000 (4000 / 4000)			8000 (4000 / 4000)			8000 (4000 / 4000)		
GENERAL										
TOTAL CONNECTED LOAD	kW	61			72			79		
TOTAL OIL CAPACITY	L	140			140			140		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	43			43			43		
MACHINE DIMENSION (L X W X H)	m	8.2 x 2.4 x 3.1			9.0 x 2.4 x 3.1			9.5 x 2.4 x 3.1		
MACHINE WEIGHT	kg	24500			26500			27000		

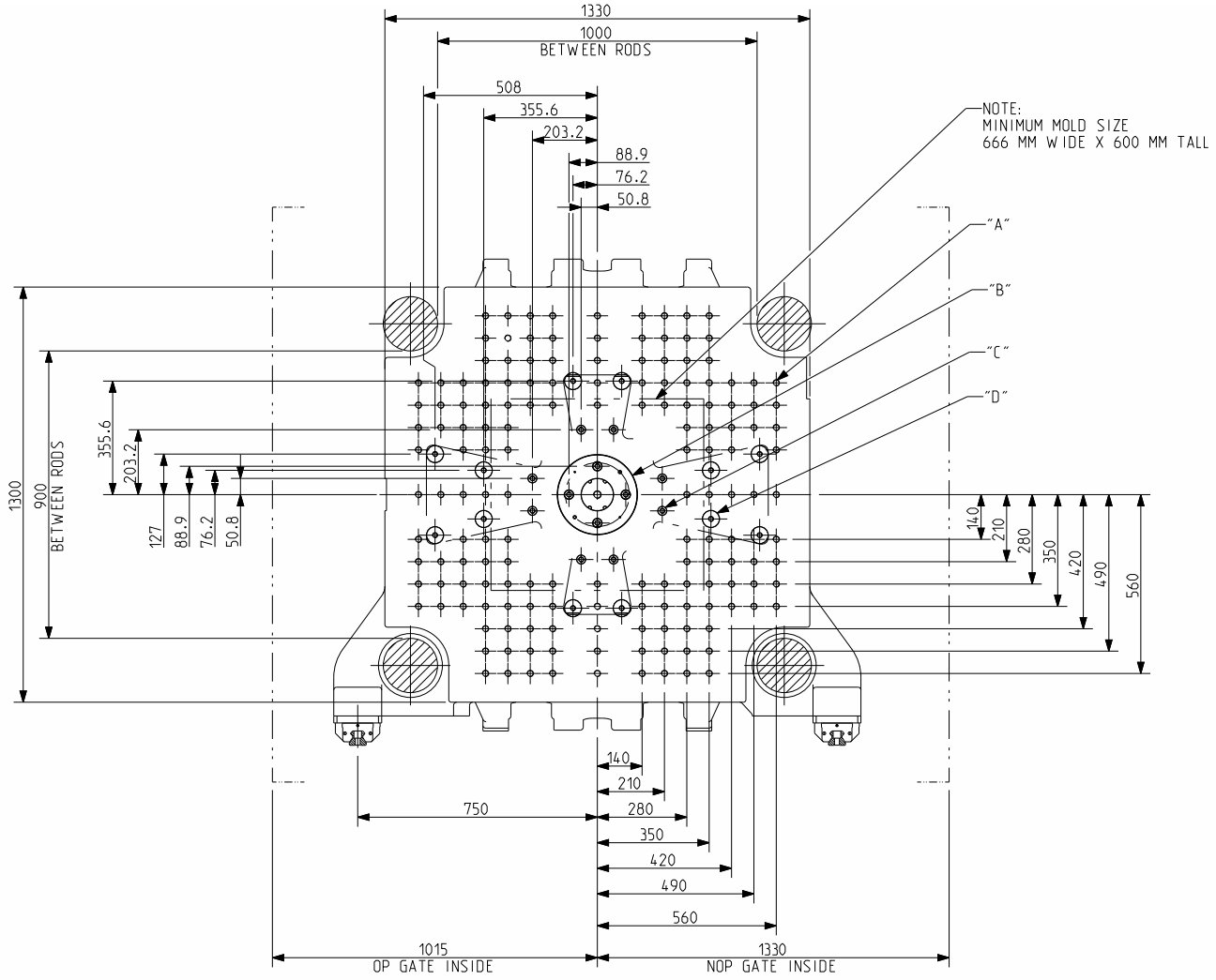
* WITH OPEN NOZZLE

THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 350 EDL

All machine dimensions and specifications are subject to change. Values are for reference only. These values are for standard machine power.

THE eQ-SERIES
TONNAGE: 550

Injection Unit 2290, 3470
TECHNICAL SPECIFICATIONS



MOVING PLATEN

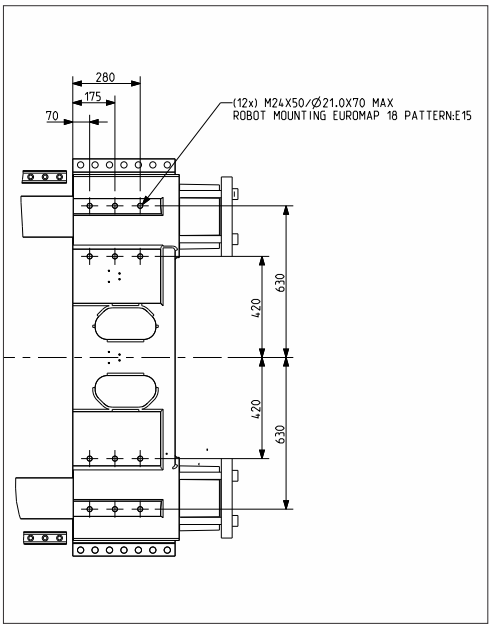
ALL DIMENSIONS ARE IN MM

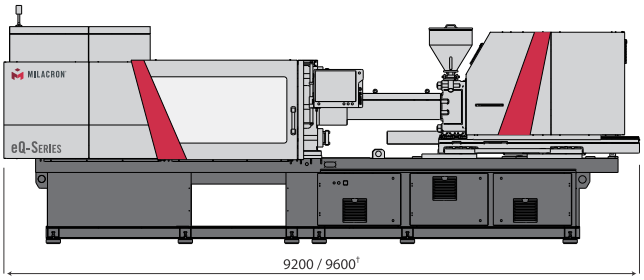
A MOVING PLATEN : M20X50 (160)
STATIONARY PLATEN : M20X50 (164)

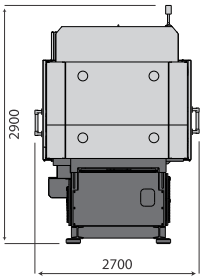
B MOVING PLATEN :
Ø100 (+0.035/-0.0) WITH LOCATING RING,
Ø250(+0.046/-0.0) x 20(+0.15/-0.0) WITHOUT LOCATING RING.
K/O BAR CENTER HOLE M24

STATIONARY PLATEN :
Ø160 (+0.04/-0.0) WITH LOCATING RING,
Ø250(+0.046/-0.0) x 20(+0.15/-0.0) WITHOUT LOCATING RING.

C Ø27, (12) HOLES IN MOVING PLATEN
K/O BAR M16 (12)







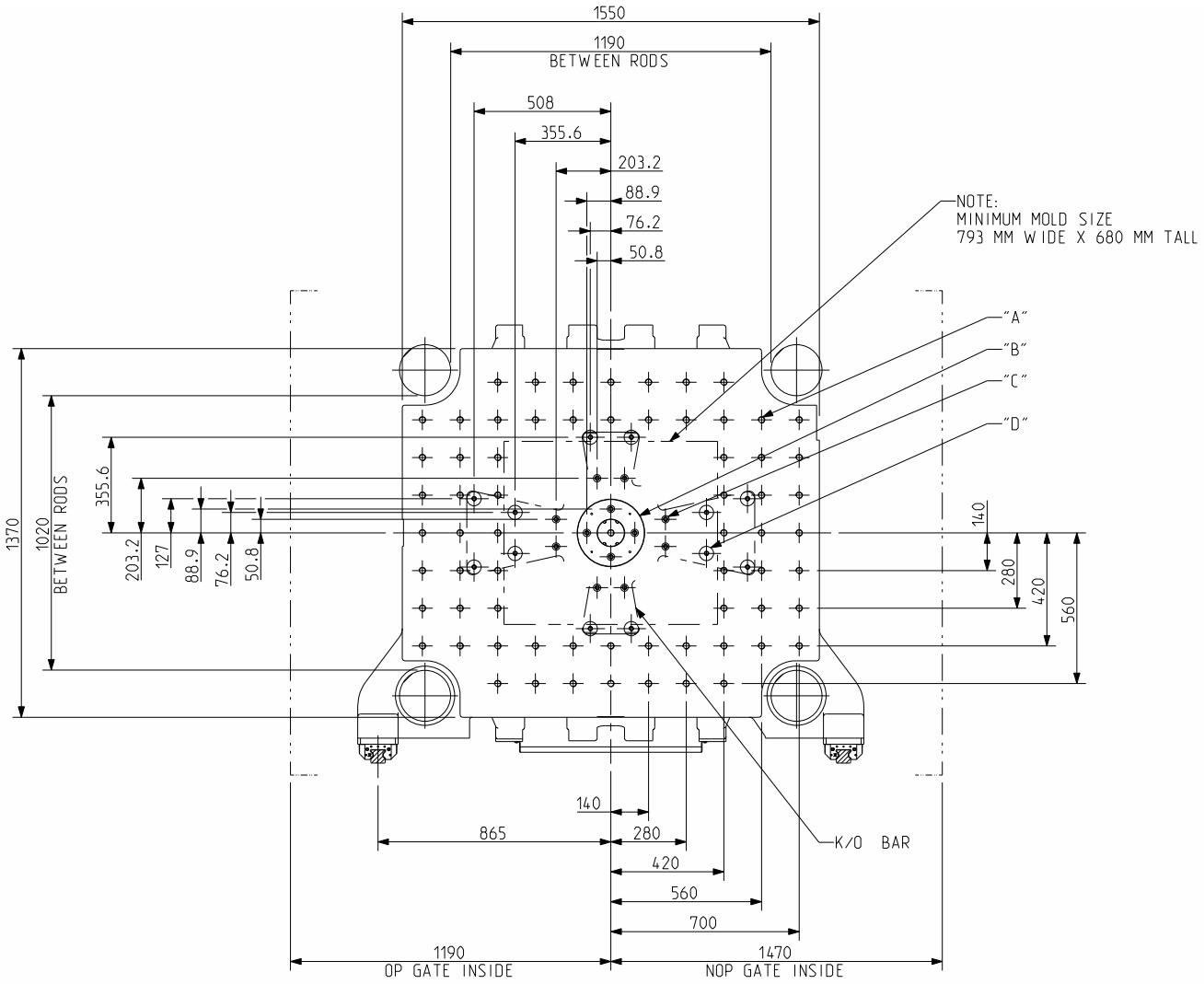
†IU 2290 / 3470

eQ-Series 550	UNIT	2290			3470		
	METRIC	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS							
INJECTION CAPACITY MAX. (GPPS)	g	861	1172	1530	1318	1722	2179
THEORETICAL DISPLACEMENT	cm^3	905	1232	1608	1385	1810	2290
INJECTION PRESSURE MAX.	bar	2238	1856	1421	2289	1917	1515
INJECTION RATE (STD) *	cm^3/s	424	578	754	577	754	954
INJECTION SPEED (STD)	mm/s	150	150	150	150	150	150
INJECTION RATE (HIGH) *	cm^3/s	792	1078	1407	962	1257	1590
INJECTION SPEED (HIGH)	mm/s	280	280	280	250	250	250
INJECTION SCREW STROKE	mm	320	320	320	360	360	360
SCREW DIAMETER	mm	60	70	80	70	80	90
SCREW L/D RATIO		26.7	22.9	20	25.7	22.5	20
SCREW SPEED	1/min	300	275	240	215	215	215
SCREW TORQUE	Nm	2600	2600	2600	3000	3000	3000
PLASTICIZING RATE (GP SCREW) *	g/s	54	77	93	60	83	111
NOZZLE HOLDING FORCE	kN	100			100		
NO. OF THERMOCOUPLES (BAR-REL&NOZZLE)		4+1			4+1		
TOTAL HEAT CAPACITY	KW	39.6			39.6		
CLAMP UNIT SPECIFICATIONS							
CLAMP FORCE	kN	5500			5500		
CLAMP STROKE	mm	920			920		
MAXIMUM DAYLIGHT	mm	1820			1820		
MINIMUM MOULD HEIGHT #	mm	400			400		
MAXIMUM MOULD HEIGHT	mm	900			900		
PLATEN SIZE (H X V)	mm	1330 x 1300			1330 x 1300		
DISTANCE BETWEEN TIE ROD	mm	1000 x 900			1000 x 900		
TIE ROD DIAMETER	mm	170			170		
EJECTOR STROKE	mm	230			230		
EJECTOR FORCE	kN	120			120		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	9650 (4150 / 5500)			9650 (4150 / 5500)		
GENERAL							
TOTAL CONNECTED LOAD	kW	77			91		
TOTAL OIL CAPACITY	L	140			140		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	43			43		
MACHINE DIMENSION (L X W X H)	m	9.2 x 2.7 x 2.9			9.6 x 2.7 x 2.9		
MACHINE WEIGHT	kg	32500			33600		

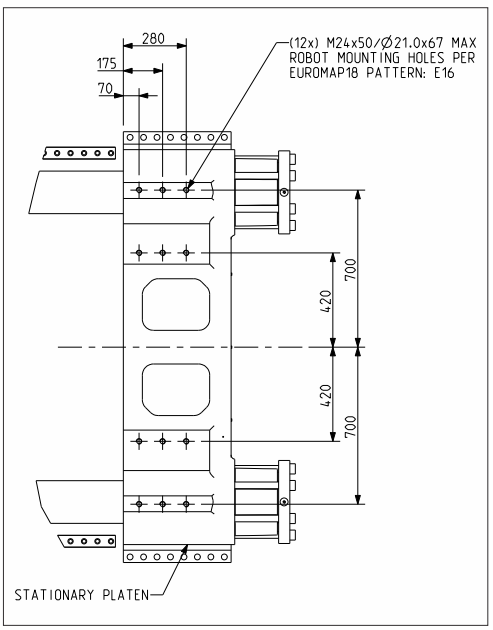
* WITH OPEN NOZZLE
# THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 500 EDL
All machine dimensions and specifications are subject to change. Values are for reference only. These values are for standard machine power.

THE eQ-SERIES
TONNAGE: 650

Injection Unit 2290, 3470
TECHNICAL SPECIFICATIONS



MOVING PLATEN



ALL DIMENSIONS ARE IN MM

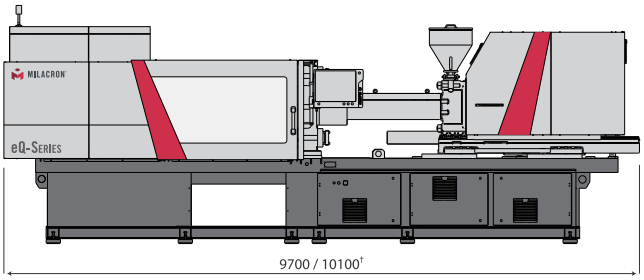
A M24X50 (66) PLACES ON BOTH PLATEN

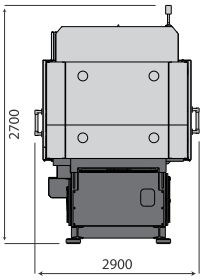
B MOVING PLATEN :
Ø100 (+0.035/-0.0) WITH LOCATING RING,
Ø250(+0.046/-0.0) x 20(+0.15/-0.0) WITHOUT LOCATING RING.
K/O BAR CENTER HOLE M24

STATIONARY PLATEN :
Ø160 (+0.04/-0.0) WITH LOCATING RING,
Ø250(+0.046/-0.0) x 20(+0.15/-0.0) WITHOUT LOCATING RING.

C Ø27, (12) HOLES IN MOVING PLATEN
K/O BAR M16 (12)

D Ø52,4, (12) HOLES IN MOVING PLATEN
K/O BAR M16 (12)





†IU 2290 / 3470

eQ-Series 650	UNIT	2290			3470		
	METRIC	A'	A	B	A'	A	B
INJECTION UNIT SPECIFICATIONS							
INJECTION CAPACITY MAX. (GPPS)	g	861	1172	1530	1318	1722	2179
THEORETICAL DISPLACEMENT	cm^3	905	1232	1608	1385	1810	2290
INJECTION PRESSURE MAX.	bar	2238	1856	1421	2289	1917	1515
INJECTION RATE (STD) *	cm^3/s	424	578	754	577	754	954
INJECTION SPEED (STD)	mm/s	150	150	150	150	150	150
INJECTION RATE (HIGH) *	cm^3/s	792	1078	1407	962	1257	1590
INJECTION SPEED (HIGH)	mm/s	280	280	280	250	250	250
INJECTION SCREW STROKE	mm	320	320	320	360	360	360
SCREW DIAMETER	mm	60	70	80	70	80	90
SCREW L/D RATIO		26.7	22.9	20	25.7	22.5	20
SCREW SPEED	1/min	300	275	240	215	215	215
SCREW TORQUE	Nm	2600	2600	2600	3000	3000	3000
PLASTICIZING RATE (GP SCREW) *	g/s	54	77	93	60	83	111
NOZZLE HOLDING FORCE	kN	100			100		
NO. OF THERMOCOUPLES (BAR-REL&NOZZLE)		4+1			4+1		
TOTAL HEAT CAPACITY	KW	39.6			39.6		
CLAMP UNIT SPECIFICATIONS							
CLAMP FORCE	kN	6500			6500		
CLAMP STROKE	mm	1000			1000		
MAXIMUM DAYLIGHT	mm	2100			2100		
MINIMUM MOULD HEIGHT #	mm	450			450		
MAXIMUM MOULD HEIGHT	mm	1100			1100		
PLATEN SIZE (H X V)	mm	1550 x 1370			1550 x 1370		
DISTANCE BETWEEN TIE ROD	mm	1190 x 1020			1190 x 1020		
TIE ROD DIAMETER	mm	190			190		
EJECTOR STROKE	mm	230			230		
EJECTOR FORCE	kN	120			120		
MOULD WEIGHT CAPACITY (STAT. / MOVING)	kg	14000 (6000 / 8000)			14000 (6000 / 8000)		
GENERAL							
TOTAL CONNECTED LOAD	kW	77			91		
TOTAL OIL CAPACITY	L	140			140		
WATER REQUIREMENT (INLET TEMP. 29° C)	LPM	43			43		
MACHINE DIMENSION (L X W X H)	m	9.7 x 2.9 x 2.7			10.1 x 2.9 x 2.7		
MACHINE WEIGHT	kg	39500			40500		

* WITH OPEN NOZZLE

THIS WILL INCREASE INCASE OF 1) EXTRA MOULD SHOE & 2) MORE THAN 500 EDL

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