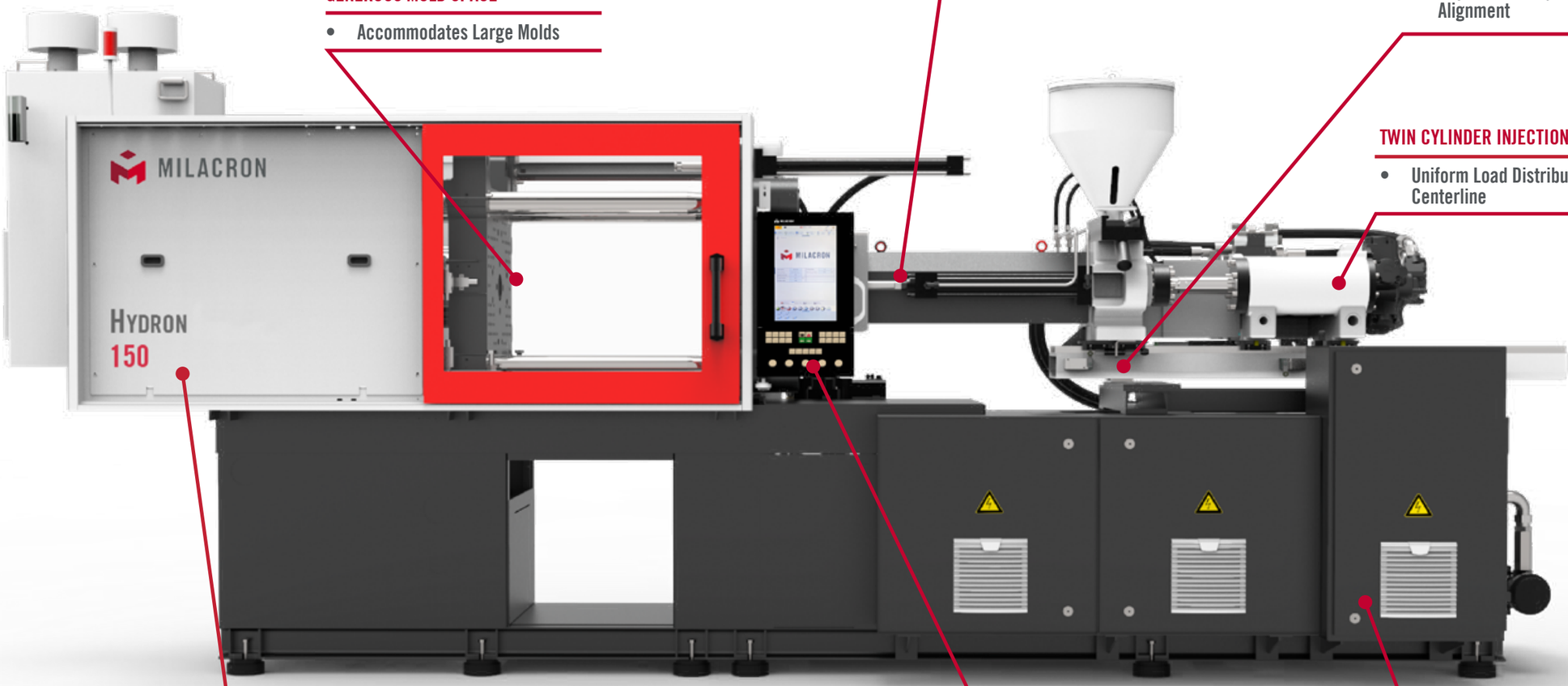
MILACRON®

THE HYDRON

80-450 TON

THE HYDRON



GENEROUS MOLD SPACE

- Accommodates Large Molds

CLOSED-LOOP PID TEMPERATURE CONTROL

- Provides precise Temperature Control
- Excellent Process Control & Stability

PRECISE LINER GUIDEWAYS

- Frictionless Linear Bearing Guideways Improve The Injection Power & Cylinder Alignment

TWIN CYLINDER INJECTION UNIT

- Uniform Load Distribution across Screw Centerline

LARGE RAM DIAMETER & UNIQUE PREFILL CYLINDER DESIGN

- Provides Uniform Force Distribution across Platen
- Provides Excellent Mold Squareness & Parallelism
- Reduces Mold Wear
- Fast Tonnage Built-up Time

EDGE – ADVANCED USER-FRIENDLY HMI CONTROLLER

- 15.6-Inch Full High Definition (FHD) Multi-Touch Capacitive Display
- Faster Processor for Efficiently Handling Critical Applications
- Graphical Representation of Machine Features
- Diagnostic and Fault-Finding Assistance
- Parameter Entry in Absolute Value
- Direct Access Menu Keys
- Ergonomic Layout

ELECTRONICALLY CONTROLLED VARIABLE VOLUME PUMP (EVP)

- For Energy Saving

THE HYDRON

Injection Unit Specifications

IU	300	450	630	970	1540	2290	3470	4880
HYDRON 80								
HYDRON 100								
HYDRON 150								
HYDRON 200								
HYDRON 250								
HYDRON 300								
HYDRON 350								
HYDRON 450								

Clamp Specifications

MODEL	TONNAGE	PLATEN SIZE (H X V)	TIE BAR SPACING (H X V)	MAX DAYLIGHT
	tons	mm	mm	mm
HYDRON 80	80	610 X 570	410 X 370	700
HYDRON 100	100	610 X 610	410 X 410	760
HYDRON 150	150	715 X 715	510 X 510	825
HYDRON 200	200	820 X 820	560 X 560	950
HYDRON 250	250	880 X 880	620 X 620	1080
HYDRON 300	300	990 X 940	700 X 650	1225# / 1375
HYDRON 350	350	1010 X 1010	710 X 710	1360# / 1660
HYDRON 450	450	1200 X 1200	830 X 830	1500# / 1850

WITH RAM SPACER

STANDARD FEATURES

CLAMP	
Hollow Headless Ram with Mono Seal & No Piston Rings	●
Large Prefill Designed for Fast Tonnage Build-up	●
Rapid Traverse Cylinders	●
Conical Strain Rod Nuts & Controlled Stress on Tie Rods	●
Adjustable moving Platen Skates	●
Rigid Cast Platens with FEA	●
T-Slot Platens with Tapped Holes (350 & 450 Tons)	●
Adjustable Pressure Setting of Closing & Opening Stage	●
Proportional Speed Control with 5 Closing & 5 Opening Speed	●
Adjustable 2 Stage Mold Safety Pressure & 2 Stage Speed	●
Position-Based Ramping for Accurate Position Switching	●
Precise Speed & Pressure Control	●
Linear Position Transducer for Accurate Clamp Position Control	●
Sensitive Mold Protection with Try Again Circuit	●
Stage-Wise Actual Time Display	●
Insert Molding Program	●
Actual Tonnage Display on Screen	●
Auto Lubrication (300 T & Above)	●
Flash Chrome Plated Ram	●
Rear Door Handle	●
Top Cover on Ram	○
Jam Bar	○
Part Drop Detect for Single Cavity	○
Part Drop Chute	○
T-Slot Platens (80 to 300 Ton)	○
Extended Daylight with Ram Spacer	○

HYDRAULICS	
Electronically Controlled Variable Volume Pump	●
Pump & Motor slide out from Base for Ease of Maintenance	●
Ergonomic Hydraulic Layout for Easy Approach	●
Valves Placed near Actuators for Rapid Response	●
Pre-Heating Circuit for Hydraulic Oil	●
Low Oil Level Audible Alarm & Motor Shutdown	●
Continuous Oil Filtration with 10 Micron Filter	●
Audible Alarm for Filter Clogging	●
Hydraulic Valve On / Off Indication	●
Butterfly Valve at Pump Suction Line	●
Y Strainer in Heat Exchanger Inlet	●
Gauge Port for all Major Functions	●
Filter Element IFR-2-06B-20-10B for Oil Filling	●

EJECTOR	
Knock-Out Bar for Multipoint Ejection	●
2 Stage Programmable Ejector Forward Profile with Soft Eject	●
Ejector Speed & Pressure adjustable on Screen	●
Linear Transducer for Ejector Position	●
Pulsating Ejector Strokes up to 9 Pulses	●
Intermediate Retract Set Point (Pulse)	●
Ejector Stay Forward & Forward Dwell Timer	●
Center Ejector Rod with Side Ejector Pins (4+1)	●
Pilot Operated Check Valve for Ejector	●
Freely Programmable Core Pull	●
Eject Retract Limit Switch Verification	○
Air Ejection	○
Parallel Ejection - Ejector on Fly	○
Hydraulic & Pneumatic Core Pull	○

TEMPERATURE CONTROL	
Actual Current Display of Heating Zones	●
Heater Failure & Thermocouple Failure Detection	●
Accurate PID Temperature Control settable on Screen	●
Feed Throat Temperature Indication	●
Weekday Timer for heat on/off	●
Heat Standby	●
Soak Timer for Cold Start Protection	●
High / Low Temperature Alarm	●
Set & Actual Temperature Data with Bar Graph	●
Insulated Heater Band	●
Oil Temperature Control	○
Feed Throat Temperature Control	○
Extra Heating Zone	○

INJECTION	
20 Stage Injection Velocity & 20 Stage Injection Pressure Profile	●
5 Stage Screw Speed & 5 Stage Back Pressure Control (Setting) through Screen	●
Digital setting of Extruder RPM & Digital readout of Actual RPM	●
Wide Choice of Injection Units with A'-A-B Screw/Barrel Combinations	●
Easy Injection Unit Swiveling	●
Switch Over from Fill to Pack based on Position, Time, or Pressure	●
Injection Unit on Linear Guideways for Reduced Frictional Losses	●
Linear Position Transducer for Accurate Injection Position Control	●
Injection Decompression Before/ After Refilling or Both	●
Semi-Auto Purge	●
Intrusion / Flow Mould	●
Cold Slug Removal by Extruder / Injection	●
Aluminum Chequered Plate below Purge Area	●
Different Sprure Beark Options (5 Selections)	●
Injection start, Suck-back & Melt Decompression -Delay Timer	●
Graphically Adjustable Alarm Bands for Injection Pressure	●
Nozzle Contact Force by Pressure Switch	●
Sliding Hopper	●
Auto Screw Protection	●
Gas Assisted Injection Interface	○
Bimetallic Barrel / Screw	○
Nozzle Shut Off Valve	○

● - Standard Feature ○ - Optional Feature

STANDARD FEATURES

ADDITIONAL FEATURES	
Levelling Pads	●
UV/OV Monitoring Relay-Voltage Monitor Relay	●
Hour Meter on Electrical Panel	●
Digital Energy Meter on Panel	●
Power on Push Button for Control	●
Dome Lamp 3-Tier	●
Surge Suppressor Device	○
Water Manifold	○
Electric UPS for Control	○
Dome Lamp 4-Tier	○
Latch & Blender Unit Interface	○
Standalone Hot Runner Controller	○
Mold Gate - Hydraulic / Pneumatic	○
Water Saver Valve for Mold / Pulse Cooling	○
Extra Power Supply Outlets with Available Combination	○
Water Battery With Temperature Indicator	○
Robot Interface (SPI & Euromap -12 & -67)	○
Electrical / Hydraulic Unscrewing	○
Good / Defective Part Signal	○
M-Powered - IoT Solution	○
OPC-UA Interface	○
Safety Interlock Between Hot Runner & Water Saver Valve through Flow Switch	○
Tubelight in Clamp Area	○

CONTROLS	
More than 80 parameters Monitoring for last 512 cycles with Graphics	●
15.6" FHD Touch Display with function Keys	●
Actual Injection Speed & Pressure Graph Display	●
200 Mold Data Storage	●
Configurable Multilevel Password with Operator's Name	●
Graphical Representation of last 48 Hours Production	●
High / Low Limit Display for Each Adjustable Parameter	●
I / 0 diagnosis - Analog & Digital	●
Timer Precision in 0.01 Second	●
Change Log Menu: logs last 512 Set Points Changes with Time & Date	●
Process Mode: Functions with its Co-functions on a Single Key Press	●
Maintenance Scheduling	●
Freely Programmable Smart Outputs & Inputs	●
Overview Screen with Graphical Display of Machine Functions	●
Soft Keys for Fast Access to Select Menus	●
Auto shut down	●
Visual & Audible Alarm	●
512 Alarm History with Date & Time Log	●
Axis-wise Graphical Cycle time Analysis	●
Batch Counter with option to turn off the Motor	●
Mold Data / Process Data / Change log saving to External USB device	●
Customized Setup Menu / Set point overview	●
Energy Meter on Screen	●
Statistical Process Control (SPC) with Graphics	●
20 function keys with LEDs	●
Unit Selection (Metric or English)	●
Daily Production Data of last 1 Year	●
Energy Consumption analysis for each axis (Energy display in kWh for every cycle on MMI)	●
Favorite Page - Select frequently used pages & operate from single page	●
Graphical adjustment of Clamp & Extruder Speeds & Pressure	●
Filtering of Alarm - Helps in quick analysis of specific alarm	●
Filtering & sorting of Changelog - Helps in quick review / analysis of parameter changes	●
Configurable FlyOut area for viewing frequently used Monitoring Pages	●
No Page more than two clicks away	●
Set point and actual values shown as absolute values	●
Pausibility check on values entered	●
Shift-wise Production Counter	●
Alarm help Information	●
Manual in HTML format for help	●
Choice of Multiple Languages	○

● - Standard Feature ○ - Optional Feature

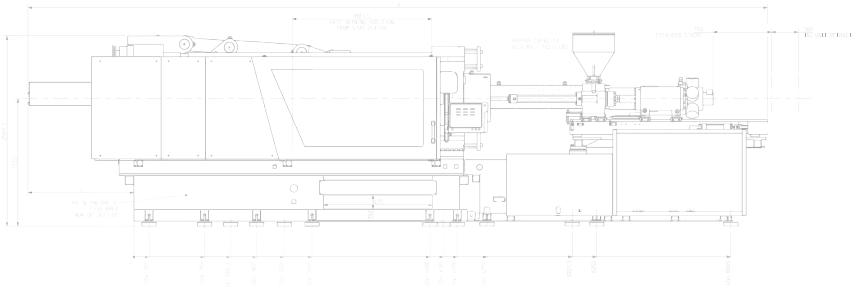
NOTES

APPLICATIONS

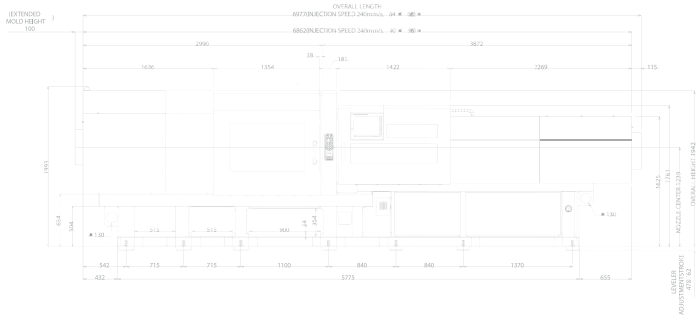
• HOUSEWARE AND APPLIANCES *• WRITING INSTRUMENTS* *• GENERAL ENGINEERING*

APPLICATIONS

• PAINT CONTAINERS *• CAPS & CLOSURES* *• STORAGE CONTAINERS* *• AUTOMOTIVE*



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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