



SPECIFICATION SHEET · H-120

# 120 TON HORIZONTAL INJECTION MOULDING MACHINE (H SERIES)

Mould clamping force 120 Tons, screw diameter 40 mm, max. shot weight 198 gms (PS).

**120 Tons**MOULD CLAMPING  
FORCE**198 gms**

MAX. SHOT WEIGHT (PS)

**40 mm**

SCREW DIAMETER

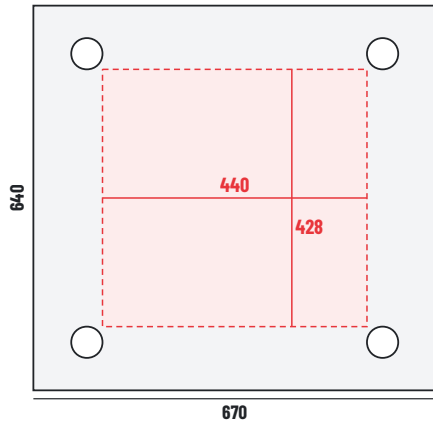
**440 x 428 mm**SPACE BETN. TIE BARS  
H X V**850 mm**MAX. DAY LIGHT  
OPENING**21.5 KW**TOTAL CONNECTED  
LOAD

## TECHNICAL SPECIFICATION

| TECHNICAL SPECIFICATION      | UNIT               | SCREW A         |
|------------------------------|--------------------|-----------------|
| <b>LOCKING UNIT</b>          |                    |                 |
| Mould Clamping Force         | Tons               | 120             |
| Mould Clamping Stroke        | mm                 | 350             |
| Mould Thickness - Min - Max. | mm                 | 200-500         |
| Max. Day Light Opening       | mm                 | 850             |
| Space Betn. Tie Bars - H x V | mm                 | 440 x 428       |
| Platen Size                  | mm                 | 670 x 640       |
| <b>HYDRAULIC EJECTOR</b>     |                    |                 |
| Ejector Stroke               | mm                 | 100             |
| Ejector Force                | Tons               | 4.7             |
| <b>INJECTION UNIT</b>        |                    |                 |
| Screw Diameter               | mm                 | 40              |
| Screw L/D Ratio              |                    | 18:1            |
| Max. Swept Volume            | Cub.cm             | 220             |
| Max. Shot Weight (PS)        | gms                | 198             |
| Max. Injection Pressure      | Kg/cm <sup>2</sup> | 1680            |
| Rate Of Injection            | cc/sec             | 95              |
| Screw Speed                  | rpm                | 300             |
| Nozzle Force                 | Tons               | 3.5             |
| <b>GENERAL (64 LPM)</b>      |                    |                 |
| Servo Motor                  | KW                 | 11              |
| Heating Capacity             | KW                 | 10.5            |
| Total Connected Load         | KW                 | 21.5            |
| Tank Capacity                | Ltrs               | 260             |
| Machine Weight               | Tons               | 4.4             |
| Floor Space ( L X W X H )    | Mtr.               | 4.6 X 1.5 X 1.8 |

This model is listed with one injection unit configuration (Screw A). Shot weight is stated for PS.

## WILL YOUR MOULD FIT?



Platen schematic in mm. Tie-bar diameter is not shown; drawing not to scale.

SPACE BETN. TIE BARS H X V

**440 x 428 mm**

PLATEN SIZE

**670 x 640 mm**

MOULD THICKNESS

**200-500 mm**

MOULD CLAMPING STROKE

**350 mm**

MAX. DAY LIGHT OPENING

**850 mm**

EJECTOR STROKE

**100 mm**

## MOULD AND PART FIT WORKSHEET

Fill in your values before an enquiry. Discuss anything close to a limit with us.

| CHECK                    | H-120 LIMIT                  | WHAT TO CONFIRM                        | YOUR MOULD OR PART | OK |
|--------------------------|------------------------------|----------------------------------------|--------------------|----|
| Mould width, height      | 440 x 428 mm                 | Fits between tie bars for loading      |                    |    |
| Mould plate size         | 670 x 640 mm platen          | Mould clamps fit on the platen         |                    |    |
| Mould thickness (closed) | 200-500 mm                   | Closed mould height in range           |                    |    |
| Opening for removal      | 350 stroke, 850 day light mm | Part and runner clear when open        |                    |    |
| Ejection                 | 100 mm, 4.7 Tons             | Travel and force the mould needs       |                    |    |
| Shot (parts + runner)    | 198 gms PS                   | Other materials: Calculation Guide     |                    |    |
| Injection pressure       | 1680 Kg/cm <sup>2</sup>      | Pressure the part needs                |                    |    |
| Clamping force           | 120 Tons                     | From projected area: Calculation Guide |                    |    |

## INJECTION UNIT

| SCREW OPTION                               | A · 40 MM |
|--------------------------------------------|-----------|
| Max. Swept Volume Cub.cm                   | 220       |
| Max. Shot Weight (PS) gms                  | 198       |
| Max. Injection Pressure Kg/cm <sup>2</sup> | 1680      |
| Rate Of Injection cc/sec                   | 95        |
| Screw L/D Ratio                            | 18:1      |

This model is listed with one screw option. Check the shot and pressure against your part before an enquiry.

## INSTALLATION AND UTILITIES

| ITEM                     | UNIT | VALUE           |
|--------------------------|------|-----------------|
| Total connected load     | KW   | 21.5            |
| Heating capacity         | KW   | 10.5            |
| Servo motor              | KW   | 11              |
| Tank capacity (oil fill) | Ltrs | 260             |
| Machine weight           | Tons | 4.4             |
| Floor space (L X W X H)  | Mtr. | 4.6 X 1.5 X 1.8 |

## SITE CHECKS BEFORE INSTALLATION

- ☐ Power supply for the connected load
 ☐ Cooling water for oil cooler and mould
 ☐ Lifting for unloading and mould changes
- ☐ Hydraulic oil for the first tank fill
 ☐ Foundation for the machine weight
 ☐ Space for robot, conveyor and dryer

Confirm these details with Pratishna Engineers before delivery.

## READING THIS SPECIFICATION SHEET

| TERM                              | WHAT IT MEANS                                                              |
|-----------------------------------|----------------------------------------------------------------------------|
| <b>Screw diameter</b>             | Injection screw size. A smaller screw gives more pressure, a smaller shot. |
| <b>Screw L/D ratio</b>            | Flighted length over diameter. Affects melting and mixing.                 |
| <b>Swept volume</b>               | Screw area times injection stroke: largest melt volume per shot.           |
| <b>Shot weight (PS)</b>           | Swept volume as a weight of PS. Other materials differ.                    |
| <b>Injection pressure</b>         | Highest melt pressure the injection unit can apply.                        |
| <b>Rate of injection</b>          | Melt volume per second. Matters for thin walls and long flows.             |
| <b>Screw speed · nozzle force</b> | Max. screw rotation in recovery · force of nozzle on sprue bush.           |

| TERM                         | WHAT IT MEANS                                              |
|------------------------------|------------------------------------------------------------|
| <b>Mould clamping force</b>  | Force keeping the mould closed against injection pressure. |
| <b>Clamping stroke</b>       | Opening travel of the moving platen.                       |
| <b>Mould thickness</b>       | Range of closed mould heights the clamp accepts.           |
| <b>Max. day light</b>        | Largest gap between fixed and moving platens.              |
| <b>Space betn. tie bars</b>  | Clear gap between tie bars. Limits mould size.             |
| <b>Servo motor · heating</b> | Rated servo motor power · barrel and nozzle heater power.  |
| <b>Total connected load</b>  | For power supply planning: servo motor plus heating.       |

## OTHER MODELS IN THE H SERIES

| MODEL                              | H-120 | H-150      | H-180      | H-220      | H-260      | H-350      |
|------------------------------------|-------|------------|------------|------------|------------|------------|
| <b>Mould clamping force (Tons)</b> | 120   | 150        | 180        | 225        | 250        | 320        |
| <b>Max. shot weight PS (gms)</b>   | 198   | 286 to 353 | 389 to 470 | 513 to 610 | 661 to 776 | 836 to 969 |

Shot weight ranges cover the screw options of each model. Click a model for its page.

## WHAT TO SEND FOR A MACHINE RECOMMENDATION

- ☐ Part drawing (2D and 3D CAD)
- ☐ Material and grade
- ☐ Part weight and runner weight
- ☐ Projected area of parts and runner
- ☐ Wall thickness and flow length
- ☐ Number of cavities
- ☐ Mould size (W X H X thickness) and weight
- ☐ Hot runner, core pulls or unscrewing
- ☐ Target cycle time and monthly volume
- ☐ Automation: robot, conveyor, dryer

## PRATISHNA ENGINEERS

Mumbai-based injection moulding machine manufacturer with in-house design, manufacturing, assembly, testing and service, supplying India and international markets.

**35+**

 YEARS OF  
EXPERIENCE

**9,000+**

 MACHINES  
SUPPLIED

**1,000+**

CUSTOMERS

**In-house**

 DESIGN TO  
SERVICE

## RELATED RESOURCES

### H SERIES CATALOGUE

<https://pratishnaengineers.com/resources/h-series-catalogue/>

### CLAMPING FORCE & SHOT-SIZE CALCULATION GUIDE

<https://pratishnaengineers.com/resources/clamping-force-and-shot-size-calculation-guide/>

## SEND YOUR PART AND MOULD DETAILS FOR A MACHINE RECOMMENDATION

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## SPECIFICATION NOTE

Specifications are indicative and are based on Pratishna Engineers' standard machine configuration at the date of issue. Values may change with screw, barrel, mould and optional equipment choices, and are subject to change without notice as part of continuous product development. Shot weight is stated for polystyrene (PS). This sheet does not constitute a quotation, warranty or contractual commitment. Final specifications are confirmed only in Pratishna Engineers' written quotation and order acknowledgement.