



TECHNICAL BUYER'S GUIDE · PRATISHNA ENGINEERS

STATIONERY COMPONENTS INJECTION MOULDING MACHINE GUIDE

A practical guide for makers of pens, markers, geometry instruments, desk tools and office accessories: components, materials, mould requirements, production planning, automation, quality, worked examples and what to send for a machine recommendation.

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WHO THIS GUIDE IS FOR

Owners, plant and production managers, process engineers and purchase teams moulding pen and marker parts, rulers, sharpeners, clips, badge holders, staplers and desk accessories.

HOW TO USE IT

Sections 01 to 04 define the part, material and mould. Section 05 plans output. Sections 06 to 09 cover automation, quality, examples and your enquiry. Clamp force and shot sizing are covered in our Machine Selection Guide.

NEED A RECOMMENDATION?

Send your drawing, material, part weight, cavities and output target to sales@pratishnaengineers.com. The checklist in Section 09 lists what to include.

SECTION 01 · OVERVIEW

STATIONERY COMPONENTS & INJECTION MOULDING

Stationery is small parts in enormous numbers. Pens, caps, rulers, sharpeners and clips run in high-cavity moulds where cycle time and consistency decide the margin.

WHERE INJECTION MOULDING FITS IN STATIONERY

India is a large producer and exporter of writing instruments. PLEXCONCIL, the plastics export promotion council, tracks writing instruments and stationery as a separate export panel, at about US\$105 million in April to August 2025, with ball-point pens the largest line^[1]. Most of these products are made from moulded parts plus a few bought-in metal or fibre components. Pens for children carry a specific safety design: ISO 11540 sets an air-flow requirement for caps so that a swallowed cap does not fully block the airway^[2]. That vent is moulded into the cap.

MAIN COMPONENT CATEGORIES

PENS Barrels, caps, refill holders and end plugs	MARKERS Barrels, caps, end plugs, clips	MEASURING Rulers, set squares, protractors, compass parts	SHARPENERS Bodies, blade seats, container versions
CLIPS & FITTINGS File clips, clipboard and folder fittings	ID & BADGES Card holders, badge reels, lanyard clips	DESK TOOLS Staplers, punches, tape dispensers, pen stands	GLUE STICKS Barrel, cap, screw, carrier, base

WHY INJECTION MOULDING SUITS THESE PARTS

- Millions of identical parts from multi-cavity hot-runner tools.
- Clips, hinges and snap fits moulded in one piece.
- Clear, coloured and branded parts straight from the tool.

TYPICAL MANUFACTURING CHALLENGES

- Long thin barrels and rulers that must stay straight.
- Clarity and flow marks on crystal PS.
- Cap fit judged by every user.
- Many colours and very low part prices.

WHICH PARTS ARE MOULDED, AND WHICH ARE NOT

INJECTION MOULDED	MADE BY ANOTHER PROCESS
Pen barrels, caps, refill tip holders and end plugs	Refill ink tube (extruded), brass or steel tip, carbide ball
Marker barrels, caps, clips, rigid badge frames	Fibre nibs and reservoirs; soft PVC or PP pouch holders (welded sheet)
Ruler, sharpener and stapler bodies, clips	Sheet-cut rulers and folder covers; sharpener blades; staples, springs, anvils

KEY REQUIREMENTS FOR STATIONERY PARTS

CAP SAFETY Vented caps on pens likely to be used by children ^[2] .	FIT AND FEEL Cap to barrel, clip spring and hinge action.	SCALE ACCURACY Rulers and geometry sets hold their graduations.
CLARITY Clear barrels show ink level; clear rulers show the drawing.	INK RESISTANCE Marker barrels resist ink solvents over shelf life.	COST PER PART Very high volumes at very low prices.

SECTION 02 · COMPONENTS

MAJOR STATIONERY COMPONENTS

The stationery parts covered by this guide, their materials and what each asks of the moulding process.

COMPONENT	APPLICATION	MATERIAL(S)	INJECTION MOULDING CONSIDERATIONS
Pen barrel	Ball, gel and roller pens	Crystal PS, PP, SAN, ABS, copolyester	16 to 48 cavities on hot runner; long thin flow; bore and concentricity seat the refill.
Pen cap	Tip protection with clip	PP, PS, ABS	PP clip flexes thousands of times; vent moulded in; cap-to-barrel interference.
Pen refill	Tip holder, adaptor, end plug	PP (moulded holder and end plug), PE	Mostly extrusion and stamping; only holders and plugs are moulded.
Marker (barrel, cap, end plug)	Permanent and whiteboard markers	PP, PS, ABS, SAN	Resin must resist ink solvent; cap seal passes the cap-off dry test.
Plastic ruler	Measuring	Crystal PS, PMMA, PP, PVC	Long thin part; straightness and shrinkage-compensated scale; graduations applied after.
Sharpener	Pencil sharpening	PS, ABS, PP, SAN (container)	Blade seat angle and screw boss decide shaving; very high cavitation.
File / folder clip	Paper holding	PP copolymer, PS, POM, PA6	Living hinge gated across the hinge and flexed at ejection, or steel spring.
ID card holder	Badge frames, hard shells, reel housings	PS, ABS, PP, PC, SAN	Clear windows need clarity grade and polish; soft pouches are welded sheet.
Pen stand	Desk organiser	PS, ABS, PP, SAN	Thick base sinks; core out; crystal PS shows flow marks; family tooling.
Glue stick barrel and screw mechanism	Adhesive stick	PP, PS, POM (screw and carrier)	Four or five mating parts; shrinkage control; no regrind in screw and carrier.
Stapler body, magazine and base	Stapling	ABS, PA6-GF, POM, PS	Hinge pin bores hold alignment; GF nylon where driving load is taken.
Punch, tape dispenser and desk tool housing	Desk tools	ABS, PS, PP, PA6-GF	Cosmetic housings over metal; rib large bases against warp; ballast cavity.
Geometry instruments (set square, protractor, compass)	Drawing and school sets	Crystal PS, PMMA, ABS, POM	Flat graduated parts; shrinkage sets scale; POM pivot or leg lock.
Retractable badge reel, lanyard clip, fastener	ID accessories	ABS, POM, PC, PP	Housing halves align closely; POM spool and ratchet; branded surface.
Clipboard, display book and folder fittings	Clip mechanisms, spine fittings, corners	PP copolymer, PS, ABS	Living-hinge spines in PP copolymer; colour match to sheet covers.

Refill tubes and tips, nibs, blades, springs, staples and folder covers are made by other processes and are outside this guide.

GROUPING BY MOULDING DEMAND

HIGH-CAVITY WRITING PARTS Barrels, caps, plugs, holders. Hot runner and cycle.	FLAT AND CLEAR PARTS Rulers, geometry sets, card frames. Straightness and clarity.	MECHANISMS Clips, glue sticks, staplers, reels. Fit, hinges and wear.
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SECTION 03 · MATERIALS

MATERIALS USED FOR STATIONERY COMPONENTS

Stationery relies on low-cost commodity resins, with engineering grades only where a part carries a spring, a thread or a driving load.

MATERIAL	TYPICAL COMPONENTS	RELEVANT PROPERTIES	PROCESSING CONSIDERATIONS	LIMITATIONS TO CHECK
Crystal PS, PS	Barrels, rulers, geometry sets, sharpeners, pen stands	Clear, rigid, low cost.	Polished tool; flow marks and weld lines show.	Brittle; solvent cracking.
SAN	Barrels, markers, sharpener containers, card holders	Clear, stiffer and more chemical resistant than PS.	Dry before moulding.	Impact.
PMMA	Rulers, geometry instruments	Clarity, scratch resistance.	Dry; polished tool.	Brittle edges.
PP, PP copolymer	Caps, barrels, refill holders, clips, hinges, fittings	Tough, flexible, fatigue-resistant hinges ^[3] .	Shrinkage and warp; gate across hinges ^[3] .	Haze in clear parts.
PE	Refill end plugs	Soft, tough.	Easy flow.	Low stiffness.
ABS	Barrels, caps, markers, stapler and desk tool bodies, reels	Tough, good surface and colour.	Dry before moulding.	Solvent and UV.
Copolyester	Pen barrels	Clear and tough.	Dry before moulding.	Grade cost.
PC	Card holders, badge reels	Clear, very tough.	Dry thoroughly.	Scratching; stress cracking.
POM	Glue stick screw and carrier, clip mechanisms, compass pivots, reel spools	Stiff, low friction, wear.	Controlled mould temperature; shrinkage.	Notch sensitivity.
PA6, PA6-GF	Clips, stapler parts, desk tools	Strength, stiffness.	Must be dried ^[7] ; abrasive glass.	Moisture changes size.
PVC	Rulers	Rigid, low cost.	Heat-sensitive; corrosion-resistant screw and tool.	Degrades if overheated.

General material behaviour only. Confirm ink, solvent and child-safety requirements with the supplier and brand owner.

MATERIAL CHOICES BY PRODUCT

PRODUCT	CLEAR OR COSMETIC PARTS	FLEXING OR WORKING PARTS
Pens and markers	Crystal PS, SAN or copolyester barrels	PP caps and clips, PP or PE refill parts
Rulers and geometry sets	Crystal PS or PMMA	POM compass pivots and locks
Clips and fittings	PS or ABS bodies	PP copolymer hinges; POM or PA6 with a spring
Desk tools and reels	ABS or PC housings	PA6-GF load parts, POM spools and pivots

MATERIAL SELECTION QUESTIONS

- ☐ Must the part be clear, and how clear?
- ☐ Does it touch ink, glue or solvents over the product's shelf life?
- ☐ Is it sold for children, with cap safety or chemical requirements?
- ☐ How many colours, and must they match other parts or sheet covers?

SECTION 04 · DESIGN & MOULD

COMPONENT DESIGN & MOULD REQUIREMENTS

Stationery tools are dominated by high cavity counts, long thin cores and polished clear surfaces, with a few precision mechanism moulds alongside.

DESIGN FEATURES THAT AFFECT MOULDING

FEATURE	WHY IT MATTERS IN STATIONERY	MOULDING IMPLICATION
Long thin barrels	Refill fit and a straight pen.	Core support; concentric filling; core shift control.
Cap vent	Air flow through the cap for child safety ^[2] .	Vent moulded in, not drilled; pin wear checked.
Clip on the cap	Flexes thousands of times.	PP grade; radius at the root; no weld line at the clip.
Long flat parts	Rulers and set squares must stay straight.	Balanced gating; even cooling; ejection support.
Living hinges	File clips and folder spines.	Flow across the hinge; flex at ejection ^{[3][4]} .
Clear sections	Barrels, rulers, card windows.	Polished steel; clean dry material; gate position.
Threads and screws	Glue stick mechanisms.	Unscrewing or stripped threads; POM shrinkage.
Thick bases	Pen stands and dispensers.	Core out; rib instead of thickening ^[6] .

MOULD CONSIDERATIONS

ITEM	STATIONERY POINTS	ITEM	STATIONERY POINTS
Cavity layout	Barrels, caps, plugs: 16 to 48. Rulers: 2 to 8. Desk tools: 1 to 4.	Steel	Polished steel for clear parts; hardened for long runs.
Runner	Hot runner for high-cavity writing parts.	Cooling	Core cooling on long barrel cores.
Balance	Equal fill so every cap fits every barrel.	Scale	Ruler cavities cut oversize to compensate shrinkage.
Venting	Thin long parts trap air at the far end.	Families	Desk sets tooled together need matched shrinkage.

KEEPING MATING PARTS MATCHED

CAP AND BARREL	SCREW AND CARRIER	REEL HALVES	COLOUR SETS
Often in separate moulds; check fit across cavities.	Glue stick parts run as a set.	Housing halves must align.	Colours matched across parts and covers.

SECONDARY OPERATIONS THAT SHAPE THE MOULD

OPERATION	TYPICAL PARTS	WHAT IT ASKS OF THE MOULDED PART
Printing and hot stamping	Barrels, rulers, geometry sets, badge reels	Flat, clean surfaces that accept ink or foil.
Pen and marker assembly	Barrel, cap, refill, plug	Bores and fits held to size across cavities.
Blade and spring fitting	Sharpeners, staplers, clips	Accurate seats, bosses and pin bores.

SECTION 05 · PRODUCTION PLANNING

PRODUCTION CAPACITY & CYCLE-TIME PLANNING

Stationery output is counted in millions. Cavity count, hot runner balance and colour changes decide capacity far more than clamp force.

OUTPUT

Parts/hour = Cavities × 3600 ÷ Cycle time (s)

Effective/hour = Parts/hour × Utilisation

Day = Effective/hour × Hours run

Utilisation covers colour and mould changes, start-up, maintenance and rejects.

EXAMPLE 1 · 32-CAVITY PS PEN BARREL

32 × 3600 ÷ 16 s = 7,200 /h

× 0.85 utilisation = 6,120 /h

× 22 h = 134,640 /day

× 26 days = 3,500,640 /month

EXAMPLE 2 · 4-CAVITY CRYSTAL PS 30 CM RULER

4 × 3600 ÷ 20 s = 720 /h

× 0.85 = 612 /h · × 22 h = 13,464 /day

× 26 days = 350,064 /month

Working backwards: for 500,000 rulers a month in 572 running hours, you need 874 per hour. Cavities = $874 \times 20 \div (3600 \times 0.85) \approx 5.7$, so a 6-cavity mould.

Illustrative example. Cycle times of 16 s and 20 s, 85% utilisation, 22 h per day and 26 days per month are assumptions. Actual requirements depend on the component, material, mould and production conditions.

WHAT SETS THE CYCLE TIME

PHASE	STATIONERY INFLUENCE
Injection & hold	Fast fill of long thin barrels and rulers.
Cooling	Thin walls cool fast; thick bases do not ^[6] .
Ejection	Long cores and hinge flexing at ejection.
Actions	Unscrewing on glue stick parts.

BALANCING CAVITIES, CLAMP FORCE AND OUTPUT

PP PEN CAP MOULD (HOT RUNNER)	PROJECTED AREA	CALCULATED FORCE	RATED AT 85%	SHOT	EFFECTIVE OUTPUT
16 cavities	64 cm ²	26 t	30 t	32 g	4,080 /h
32 cavities	128 cm ²	52 t	61 t	64 g	8,160 /h
48 cavities	192 cm ²	77 t	91 t	96 g	12,240 /h

Illustrative example. Force = projected area × clamp factor K × safety factor S. PP, PE and PS are commonly given 2 to 3 US tons per square inch^[5], about 0.28 to 0.42 t/cm²; K = 0.35 t/cm² and S = 1.15 assumed. Also assumed: 4 cm² and 2 g per cap, hot runner with no cold runner, 12 s cycle, 85% utilisation.

PLANNING A PEN PROGRAMME

Machine hours = Σ (monthly volume per part ÷ effective output per part)

Barrel, cap, plug and clip each need their own hours. Compare the total with the 572 running hours per machine used in these examples.

School-season demand drives stationery. Barrels and caps in core colours can be built to stock ahead of the peak, while printed and branded parts run to order.

MACHINE UTILISATION AND PLANNED DOWNTIME

COLOUR CHANGES

Many colours per part; plan sequences light to dark.

HOT RUNNER CARE

Blocked tips stop cavities and upset balance.

DRYING

SAN, PMMA, ABS, PC and nylon need drying^[7].

SCHOOL SEASON

Peaks before the academic year.

SECTION 06 · AUTOMATION

AUTOMATION & PRODUCTION EFFICIENCY

In stationery the moulding is fast and cheap; handling, counting and assembly are where labour goes. Automation aims there.

AUTOMATION	WHERE IT ADDS VALUE IN STATIONERY	WHEN IT USUALLY MAKES SENSE
Hot runner	Barrels, caps, plugs in 16 to 48 cavities.	Very high volumes; no runner to handle.
Conveyors and counting	Barrels, caps, clips, sharpeners.	All high-count parts.
Orientation and feeding	Barrels and caps to assembly.	Where parts go straight to pen assembly.
Pen and marker assembly	Barrel, refill, cap, plug.	Large runs of standard pens.
Robot take-out	Rulers and geometry sets.	Long flat parts that must not bend or scratch.
Hinge flexing at ejection	File clips and folder spines.	Every living-hinge part ^{[3][4]} .
Printing and hot stamping	Barrels, rulers, reels.	Inline where volume allows.
Central material and colour dosing	Many machines on PS and PP.	Plants with many colours.

AUTOMATION BY PRODUCT GROUP

PRODUCT GROUP	MAIN AUTOMATION	WHY
Pens and markers	Hot runner, feeding, assembly	Millions of parts, many per product
Rulers and geometry sets	Robot take-out, printing	Straightness and surface
Clips and fittings	Hinge flexing, counting	Hinge life and packing
Desk tools and glue sticks	Assembly	Several mating parts

DECIDING ON AUTOMATION

PARTS PER PRODUCT A pen has three or four moulded parts to bring together.	PRICE PER PART Labour per part must be tiny.	CONSISTENCY Automated handling avoids scratches on clear parts.
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INTERFACES TO SPECIFY ON THE MACHINE

HOT RUNNER Enough zones for high-cavity tools.	ROBOT Signal interface and safety interlocks.	UNSCREWING For glue stick screw parts.	AUXILIARIES Conveyor, counter, colour doser.
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WHERE THE COST OF A MOULDED PART COMES FROM

MATERIAL PS, PP, ABS	MACHINE per machine hour	LABOUR handling, assembly	POWER kWh per part	MOULD high cavitation	REJECTION fit, warp	PACKING by count
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On pens and caps, machine hours, power and assembly dominate because material per part is tiny. On rulers and desk tools, material and rejects count more. Use your own rates to compare options.

SECTION 07 · QUALITY

QUALITY, TESTING & COMMON DEFECTS

A stationery part is judged in the hand: the cap clicks, the pen writes straight, the ruler lies flat and the clip springs back.

TESTS AND CHECKS

CHECK	WHAT IT INVOLVES	LINK TO MOULDING
Cap air flow	ISO 11540: at least 8 l/min at a pressure drop of 1.33 kPa or less ^[2] .	Vent size, pin wear, flash in vent
Vent size guide	A single round vent of about 3.4 mm ² is expected to meet the flow ^[2] .	Core pin condition
Cap fit	Push-on and pull-off feel against the barrel.	Cavity balance, shrinkage
Scale accuracy	Rulers and geometry sets against a calibrated standard.	Shrinkage compensation, warp
Straightness	Barrels and rulers on a flat plate.	Cooling, ejection, core shift
Hinge and clip life	Repeated flexing to the customer's target.	Gate position, flex at ejection ^[3]
Ink and glue compatibility	Storage with ink or adhesive over shelf life.	Grade, residual stress

ISO 11540 applies to caps likely to be used by children up to 14 years^[2]. Confirm the edition and any market-specific rules.

IN-PROCESS CONTROLS

WEIGHT BY CAVITY Flags blocked hot runner tips.	CAP AND BARREL GAUGE Go / no-go on fit.	VENT CHECK Vent open and free of flash.	VISUAL Flow marks and weld lines on clear parts.
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TROUBLESHOOTING COMMON DEFECTS

DEFECT	POSSIBLE CAUSES	EFFECT ON THE PART	AREAS TO INVESTIGATE
Bent barrels	Core shift, uneven cooling	Pen writes crooked, refill binds	Core support, filling balance, cooling
Short shots at tip	Long thin flow, trapped air	Refill does not seat	Injection speed, venting
Flow marks, weld lines	Gate position on clear PS	Cosmetic reject	Gate location, melt and mould temperature
Warped rulers	Uneven cooling, early ejection	Ruler rocks, scale error	Cooling layout, hold, ejection
Cracked caps or clips	Weld line at clip root, brittle grade	Clip snaps	Gate, grade, root radius
Hinge failure	Flow along hinge, no flexing ^[3]	Clip breaks early	Gate position, flex at ejection
Flash in cap vent	Worn pin, low clamp	Vent blocked, safety fail	Pin condition, parting line
Stiff glue stick	Shrinkage variation, regrind in POM	Mechanism jams	Hold, grade, regrind control

SECTION 08 · WORKED EXAMPLES

PRACTICAL MACHINE-SELECTION EXAMPLES

Three typical stationery parts show how the selection logic changes with the component. These are engineering illustrations with assumed inputs, not customer case studies.

A · PP PEN CAP WITH CLIP		HIGH CAVITATION
APPLICATION · MATERIAL	Ball pen cap with moulded clip and vent · PP	
CHARACTERISTICS	About 2 g, 4 cm ² projected area (assumed)	
CAVITIES · OUTPUT	32 on hot runner · about 8,160 per hour at 12 s (Section 05)	
MOULD CONSIDERATIONS	Balanced hot runner, vent pins, clip root radius	
SECONDARY	Assembly with barrel, counting	
EVALUATE The Section 05 table gives about 52 t calculated and a 64 g shot, so a clamp rated around 61 t or more. Fast dry cycle, hot runner zones and repeatable fill matter more than tonnage. STILL NEEDED CAD area, barrel fit, colours, volume.		

B · CRYSTAL PS 30 CM RULER		LONG FLAT PART
APPLICATION · MATERIAL	School ruler · crystal PS	
CHARACTERISTICS	300 × 30 mm (90 cm ²), thin and long; clear	
CAVITIES · OUTPUT	6 · about 918 per hour at 20 s (from Section 05)	
MOULD CONSIDERATIONS	Oversize cavities for shrinkage, even cooling, polish	
SECONDARY	Printing or hot stamping of scale	
EVALUATE Area 540 cm ² plus 30 cm ² runner (assumed) × 0.35 × 1.15 ≈ 229 t, so a clamp rated around 270 t or more, with platens and tie-bar space for a 300 mm part layout. STILL NEEDED CAD, exact layout, print method, volume.		

C · GLUE STICK MECHANISM		MATING PARTS
APPLICATION · MATERIAL	Glue stick barrel, cap, screw, carrier, base · PP, PS, POM	
CHARACTERISTICS	Four or five parts that must run smoothly together	
CAVITIES · OUTPUT	Separate or family moulds · set by assembly rate	
MOULD CONSIDERATIONS	Unscrewing or stripped threads; POM shrinkage	
SECONDARY	Filling with adhesive, assembly	
EVALUATE	Plan machines per part: the barrel sets the largest shot; screw and carrier need repeatable shrinkage and clean POM without regrind. STILL NEEDED drawings of all parts, grades, volume.	

WHAT DECIDED THE MACHINE IN EACH EXAMPLE

SELECTION FACTOR	A · PEN CAP	B · RULER	C · GLUE STICK
Main limit	Cavities, cycle	Part length, straightness	Number of parts, fit
Clamp force	About 61 t rated	About 270 t rated	Largest part sets it
Auxiliaries	Hot runner, counter	Robot, printing	Unscrewing, assembly

Illustrative example. Actual requirements depend on the component, material, mould and production conditions.

SECTION 09 • BUYER CHECKLIST

MACHINE BUYER'S CHECKLIST

What to prepare before asking an injection moulding machine manufacturer for a recommendation on a pen, ruler, clip or desk tool part.

COMPONENT

- ☐ 2D drawing and 3D CAD model
- ☐ Part weight and wall thickness
- ☐ Grade and colour list
- ☐ Fits with mating parts
- ☐ Clarity and surface requirements

PRODUCTION

- ☐ Monthly volume per part and colour
- ☐ School-season peaks
- ☐ Cavity count and target cycle time
- ☐ Operating hours and shifts
- ☐ Packing by count or set

MOULD

- ☐ New or existing mould; size and weight
- ☐ Hot runner zones and gates
- ☐ Unscrewing or hinge features
- ☐ Polish and steel
- ☐ Previous machine specification, if any

STATIONERY APPLICATION

- ☐ Cap safety requirement (ISO 11540)
- ☐ Ink, glue or solvent contact
- ☐ Scale accuracy or straightness
- ☐ Printing or hot stamping
- ☐ Assembly after moulding

DOCUMENTS TO REQUEST FROM THE MACHINE SUPPLIER

PLATEN DRAWING

Tie-bar spacing, mounting holes, ejector pattern, nozzle details.

LAYOUT

Footprint, robot and conveyor space, access.

UTILITIES

Connected load, cooling water, air and oil needs.

TRIAL REPORT

Trial or acceptance data at your settings.

QUESTIONS TO ASK BEFORE YOU BUY A MACHINE

#	QUESTION	WHY IT MATTERS FOR STATIONERY
1	How many hot runner zones can be connected and controlled?	High-cavity barrel and cap tools.
2	What dry cycle time and injection speed does the machine reach?	Fast cycles and long thin flow.
3	What shot repeatability does it hold at small shot sizes?	Cap fit across all cavities.
4	Will my longest ruler or geometry layout fit between the tie bars?	Long flat parts.
5	Is an unscrewing circuit available?	Glue stick screw parts.
6	What robot and conveyor interfaces are supported?	Take-out, counting and assembly feeds.
7	Can the control store settings for each part and colour?	Many colours per part.
8	What is the energy use per part at my cycle?	Very low part prices.
9	Can the machine log shot data?	Tracing fit or vent problems to a lot.
10	What installation, training and spare-parts support is included?	School-season uptime.

SECTION 10 · TECHNICAL CONSULTATION

PRATISHNA ENGINEERS & TECHNICAL CONSULTATION

Pratishna Engineers Ltd. is a Mumbai-based injection moulding machine manufacturer with in-house design, manufacturing, assembly, testing and service, supplying plastic component manufacturers in India and international markets.

35+

YEARS OF EXPERIENCE

9,000+

MACHINES SUPPLIED

1,000+

CUSTOMERS

In-house

DESIGN TO SERVICE

Machines are used for automotive, packaging, electrical and electronics, medical, consumer, agriculture and industrial applications.

OUR TECHNICAL APPROACH

COMPONENT	MATERIAL	MOULD	PRODUCTION REQUIREMENT	MACHINE CONFIGURATION
1 · CALCULATE Clamp force and shot weight from part, cavities and grade.	2 · CHECK THE MOULD Size, stroke, core pulls and inserts.	3 · CHECK OUTPUT Cycle and cavities against your volume.	4 · CONFIGURE Screw, barrel, controls and auxiliaries.	

SEND YOUR COMPONENT & PRODUCTION REQUIREMENTS

Component drawing · material · part weight · mould details · cavity count · production requirement · cap safety requirement, decoration and assembly steps.

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TECHNICAL DISCLAIMER

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Actual injection moulding machine and process requirements vary according to the component design, material, mould, production volume, machine configuration and operating conditions. The information, examples, calculations and recommendations provided should be independently evaluated and verified for the specific application before making any equipment, process or production decision. Information obtained from third-party sources remains subject to the accuracy and limitations of those sources.

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