



TECHNICAL BUYER'S GUIDE · PRATISHNA ENGINEERS

PET CARE COMPONENTS INJECTION MOULDING MACHINE GUIDE

A practical guide for makers of pet bowls, toys, litter trays, feeders, carriers and pet 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 pet bowls, toys, litter products, feeders, fountains, carrier fittings, collar hardware and grooming tools.

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

PET CARE COMPONENTS & INJECTION MOULDING

Pet products are consumer goods that an animal chews, eats from, steps on or pulls against. Most of them are injection moulded from a short list of polyolefins, styrenics, nylons and elastomers.

WHERE INJECTION MOULDING FITS IN PET CARE PRODUCTS

A pet care range covers feeding (bowls, slow feeders, gravity and automatic feeders, water fountains), play (chew, fetch and treat-dispensing toys), hygiene (litter trays, hoods, flaps, scoops, grooming brushes) and travel and walking (carrier fittings, collar buckles, sliders, D-rings and leash hardware). Small-pet cages and aquariums add bases, clips, wheels and drinker parts.

Bowls, feeders and fountains touch food and water. India has no pet-specific moulding standard, so buyers often ask for grades that meet the Indian food-contact plastics standards, such as IS 10910 for polypropylene and IS 9833 for colourants, which cover the resin, additives, pigments and overall migration^[1]. Toys raise a similar question: buyers increasingly ask for the full compound formulation and test data, not only a hardness figure.

MAIN COMPONENT CATEGORIES

BOWLS Single, double and slow-feeder bowls	TOYS Chew, fetch and treat-dispensing toys	LITTER TRAYS Trays, hoods, flaps, filter frames	LITTER ACCESSORIES Scoops and tray accessories
FEEDERS & FOUNTAINS Hoppers, lids, wheels, pump covers	CARRIER FITTINGS Doors, latches, vent grilles	COLLAR HARDWARE Buckles, sliders, D-rings	GROOMING & SMALL PETS Brushes, combs, cage and aquarium fittings

WHY INJECTION MOULDING SUITS THESE PARTS

- TPR and TPE toys are moulded in fast automated cycles^[4].
- Maze ribs, grilles and snap fits come out of the mould finished.
- Buckles, clips and scoops run in multi-cavity moulds.

TYPICAL MANUFACTURING CHALLENGES

- Large flat litter trays and hoods warp.
- Toy hardness and wall thickness must match the chewer.
- Buyers ask for food-contact and formulation data.

WHERE MOULDING SITS IN THE PRODUCT CHAIN

RESIN PP, HDPE, TPE, POM, PA	DRYING PA, ABS, PC	INJECTION MOULDING bodies, toys, fittings	OVERMOULDING grips, base rings	ASSEMBLY feeders, brushes, carriers	TESTING pull, cycle, food contact	PACKING retail sets
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KEY REQUIREMENTS FOR PET CARE PARTS

SAFE CONTACT Bowls and feeders use food-contact grades and permitted colourants ^[1] .	CHEW RESISTANCE Toy hardness and walls are matched to the dog; small-pet parts avoid thin edges.	EASY CLEANING Smooth surfaces and radii; no crevices that trap water or waste.
CHEMICAL RESISTANCE Trays and fountains face urine, ammonia and cleaners ^[2] .	LOAD AND FATIGUE Buckles and carrier latches hold an animal pulling or pushing.	COST PER PART Retail price points: cycle, cavities and regrind decide margin.

SECTION 02 · COMPONENTS

MAJOR PET CARE COMPONENTS

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

COMPONENT	APPLICATION	MATERIAL(S)	INJECTION MOULDING CONSIDERATIONS
Pet bowl (single, double, slow-feeder)	Food and water	PP copolymer, HDPE, SAN, PS, TPE (base ring)	Food-contact grade, no water traps. Slow-feeder maze ribs need draft and careful ejection. TPE base ring two-shot or fitted.
Pet toy (chew, fetch, treat-dispensing)	Play and dental care	Food-grade TPE/TPR, TPU, PP, PA6 (nylon chews)	Hardness graded by Shore A; wall thickness matched to it ^[5] . Demand formulation and test data. Nylon chews are a separate discipline ^[6] .
Litter tray	Cat toilet	PP copolymer, HDPE, recycled PP	Large flat footprint sets tonnage though the part is light. Smooth surfaces and radii; warp makes a tray rock.
Litter box hood, flap, filter frame	Covered litter boxes	PP copolymer, ABS, TPE (flap)	Hood is a large thin shell and must mate with the tray after shrinkage. Flap swings thousands of times without set.
Litter scoop, tray accessory	Cleaning	PP, ABS, PS	High cavitation. Slot geometry and neck stiffness; PP living hinges flexed after ejection.
Pet feeder hopper, lid, dispensing parts	Gravity and automatic feeders	PP copolymer, ABS, PC (clear hopper)	Each part its own tool. Wheel and chute must not jam with kibble. Clear hoppers need a polished tool.
Water fountain housing, pump cover	Drinking water	PP, ABS, PC, SAN	Continuously wet: stress cracking from cleaners and biofilm in corners. Pump parts precise; clear reservoirs show flow marks.
Carrier door, latch, vent grille, fittings	Pet carriers	PP copolymer, PA6-GF, POM, ABS	Latch retention is fatigue tested. Grilles carry many weld lines, so venting decides strength. Dry nylon.
Collar buckle, slider, D-ring, leash hardware	Walking gear	POM, PA6, PA66, ABS	Webbing pull and cycle tests; retest after any resin or regrind change. UV-stabilised grades. High cavitation.
Grooming brush and comb	Grooming tools	ABS, PP, PA6, TPE (grip)	Pin and tuft holes round and burr-free. TPE grip two-shot on a rigid core. Retracting brushes need a precise slide.
Small-pet cage and aquarium fittings	Bases, clips, wheels, drinker parts	PP, ABS, PS, POM, PA6	Family of small parts. POM for drinker valves and wheel bearings. Hard grades, no thin edges where rodents chew.

CHECK THE PROCESS BEFORE QUOTING

PRODUCT OR MATERIAL	USUAL PROCESS	WHAT TO CONFIRM
TPR or TPE toys	Injection moulding in automated cycles ^[4]	Hardness tier and formulation
Natural rubber toys	Compression moulding with curing ^[4]	Whether "rubber" means TPR or natural rubber
Nylon chews	Injection moulding of polyamide ^[6]	Grade, drying, hardness zones
Melamine bowls	Compression-moulded thermoset	Not an injection moulding job
Carrier shells	Injection moulding on a large machine	Fittings run on smaller machines

SECTION 03 · MATERIALS

MATERIALS USED FOR PET CARE COMPONENTS

Pet products lean on PP and HDPE for trays and bowls, TPE and TPR for toys and grips, and POM and nylon for parts that carry load.

MATERIAL	TYPICAL COMPONENTS	RELEVANT PROPERTIES	PROCESSING CONSIDERATIONS	LIMITATIONS TO CHECK
PP copolymer, PP	Bowls, trays, hoods, feeders, fountains, scoops, carrier parts	Tough, light; resists ammonia, urea and dilute hypochlorite ^[2] .	Shrinkage and warp on large parts; living hinges.	Scratches; UV needs stabiliser.
Recycled PP	Litter trays	Lower cost, lower footprint.	Filter and dry if needed; check melt flow.	Colour and property variation.
HDPE	Bowls, trays	Tough, chemical resistant.	High shrinkage.	Warp; lower stiffness.
TPE, food-grade TPE/TPR	Toys, base rings, flaps, grips	Soft, graded by Shore A ^[3] .	Moulds as a thermoplastic ^[3] ; bond pair for overmoulding.	Tear resistance; formulation data.
TPU	Toys	Tough, abrasion resistant.	Must be dried.	Cost.
PA6, PA66, PA6-GF	Nylon chews, buckles, carrier parts, brushes, cage parts	Strong, tough.	Must be dried ^[9] .	Moisture changes size and stiffness.
POM	Buckles, latches, drinker valves, wheel bearings	Stiff, low friction ^[10] .	Controlled mould temperature.	Never mixed in a barrel with PVC.
ABS	Hoods, feeders, fountains, carriers, brushes, scoops	Rigid, good surface.	Needs drying.	Chemical and UV limits.
PC	Clear feeder hoppers, fountains	Clear, tough.	Dry well; hot, polished mould.	Stress cracking with cleaners.
SAN, PS	Bowls, fountains, scoops, cage parts	Rigid; SAN clear.	Easy flow.	Brittle; impact limits.

General material behaviour only. Confirm grade data, food-contact status and formulation with the resin supplier.

MATCHING THE MATERIAL TO THE JOB

NEED	MATERIALS IN THIS GUIDE	MAIN CHECK
Food and water contact	PP copolymer, HDPE, SAN, PS, PC	Food-contact grade and colourants ^[1]
Chewing and play	TPE/TPR, TPU, PA6	Hardness, tear, formulation
Waste and cleaners	PP copolymer, HDPE, recycled PP	Chemical resistance ^[2] , stress
Load and wear	POM, PA6, PA66, PA6-GF	Drying, fatigue, UV
Rigid housings	ABS, PC, SAN, PS	Impact, stress cracking

MATERIAL SELECTION QUESTIONS

- ☐ Does the part touch food or water?
- ☐ Which chewer size and hardness tier?
- ☐ Which cleaners and how often?
- ☐ Indoor use, or outdoor with UV?

SECTION 04 · DESIGN & MOULD

COMPONENT DESIGN & MOULD REQUIREMENTS

Pet products are judged by owners on cleaning and durability. Radii, ribs and wall thickness decide both, and they are set in the mould.

DESIGN FEATURES THAT AFFECT MOULDING

FEATURE	WHY IT MATTERS IN PET PARTS	MOULDING IMPLICATION
Maze ribs, undercuts	Slow-feeder bowls and treat toys.	Draft, polish and ejection so parts do not stick or tear.
Large flat walls	Litter trays and hoods must sit flat.	Balanced cooling and gating; stiffening ribs.
Smooth radii	Waste and food residue stick in corners.	Polished surfaces, no sharp internal corners.
Graded hardness	Toys for different chewers ^[5] .	Two-shot or insert moulding of hard and soft sections.
Open grilles	Carrier vents and cage parts.	Many weld lines: venting and melt temperature.
Snap and latch features	Carrier doors, buckles, lids.	Accurate shut-offs; POM or nylon behaviour.
Living hinges	Scoops, holders, feeder lids.	PP only; gate so flow crosses the hinge.

MOULD CONSIDERATIONS

ITEM	PET CARE POINTS	ITEM	PET CARE POINTS
Cavities	Trays and hoods: 1. Bowls: 1 to 4. Buckles and clips: 8 to 32.	Ejection	Deep bowls and soft toys need air or stripper ejection.
Runner	Hot runner on large trays helps filling.	Steel	Polished for bowls; wear-resistant for glass-filled nylon.
Two-shot	TPE base rings, grips and multi-hardness toys.	Pairs	Tray and hood moulds qualified as a pair.
Cooling	Sets the cycle; rises roughly with wall thickness squared ^[8] .	Mould size	Trays need large platens and long openings.

DESIGNING FOR CLEANING

NO TRAPS	GENEROUS RADII	RIGHT TEXTURE
Avoid closed ribs and crevices that hold water, food or waste.	Internal corners radiused so a cloth or brush reaches them.	Gloss where residue sticks; texture only where grip is needed.

SECONDARY OPERATIONS THAT SHAPE THE MOULD

OPERATION	TYPICAL PARTS	WHAT IT ASKS OF THE MOULDED PART
Insert pressing	Stainless bowl inserts, brush pins	Accurate seats and holes, round and burr-free.
Assembly	Feeders, fountains, carriers, brushes	Snap fits, bores and screw bosses on size.
Decoration	Bowls, toys, hoods	Clean surfaces for printing or labels.

SECTION 05 · PRODUCTION PLANNING

PRODUCTION CAPACITY & CYCLE-TIME PLANNING

Pet care ranges mix a few large, slow parts such as litter trays with many small, fast ones such as buckles and scoops. Machine hours follow the large parts.

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 · 16-CAVITY POM BUCKLE PART

16 × 3600 ÷ 20 s = 2,880 /h
 × 0.85 utilisation = 2,448 /h
 × 22 h = 53,856 /day
 × 26 days = 1,400,256 /month

EXAMPLE 2 · 1-CAVITY PP LITTER TRAY

1 × 3600 ÷ 45 s = 80 /h
 × 0.85 = 68 /h · × 22 h = 1,496 /day
 × 26 days = 38,896 /month

Working backwards: for 60,000 trays a month in 572 running hours, you need 105 per hour. Cavities = $105 \times 45 \div (3600 \times 0.85) \approx 1.5$, so a 2-cavity mould on a larger machine or a second machine.

Illustrative example. Cycle times of 20 s and 45 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	PET CARE INFLUENCE
Injection & hold	Long flow on trays; hold on thick toys.
Cooling	Usually the largest share ^[8] .
Ejection	Deep bowls and soft toys eject slowly.
Two-shot	Rotation or transfer adds time.

BALANCING CAVITIES, CLAMP FORCE AND OUTPUT

PP LITTER SCOOP MOULD	PROJECTED AREA	CALCULATED FORCE	RATED AT 85%	SHOT	EFFECTIVE OUTPUT
2 cavities	128 cm ²	52 t	61 t	55 g	306 /h
4 cavities	254 cm ²	102 t	120 t	108 g	612 /h
8 cavities	504 cm ²	203 t	239 t	214 g	1,224 /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^[7], about 0.28 to 0.42 t/cm²; K = 0.35 t/cm² and S = 1.15 assumed. Also assumed: 60 cm² and 25 g per scoop, runner area 8 / 14 / 24 cm² and weight 5 / 8 / 14 g, 20 s cycle, 85% utilisation.

PLANNING TOTAL MACHINE HOURS

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

Plan trays and hoods on large machines first, then load bowls, toys and small hardware onto smaller machines. Divide by the running hours per machine (572 here).

A range often runs recycled PP in trays and virgin food-contact grades in bowls. Keep them on separate machines or plan full purges, and keep regrind from food-contact parts out of other streams unless the grade allows it.

MACHINE UTILISATION AND PLANNED DOWNTIME

COLOUR CHANGES Sequence light to dark; retail ranges change colour often.	SIZE CHANGES Group S, M, L inserts on one base.	MATERIAL CHANGES Keep TPE, POM and nylon on set machines.	SEASONAL DEMAND Build stock of fast sellers ahead of festive peaks.
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SECTION 06 · AUTOMATION

AUTOMATION & PRODUCTION EFFICIENCY

In pet care, automation pays where parts are large and awkward, where two materials meet, or where many small parts are packed into retail sets.

AUTOMATION	WHERE IT ADDS VALUE IN PET CARE PARTS	WHEN IT USUALLY MAKES SENSE
Robot take-out	Litter trays, hoods and large bowls placed flat.	Large parts where hand removal distorts them.
Two-shot or overmoulding	Toy hardness zones, TPE base rings, brush grips ^[5] .	Where assembly of a soft part would add a step.
Sprue picker	Buckle, clip and scoop moulds.	Multi-cavity cold-runner moulds.
Insert placement	Brush pins, stainless bowl inserts.	Volume lines with repeat inserts.
Assembly cells	Feeders, fountains, carrier doors.	Several parts per product at volume.
Pull and cycle testers	Buckles and latches.	Load-bearing hardware on every lot.
Colour dosing	Retail colour ranges.	Many colours on the same mould.
Counting and packing	Toys, scoops and hardware in retail sets.	Small parts sold in fixed quantities.

A robot that places a warm litter tray flat on a cooling fixture often removes the warp that hand removal causes, and it keeps the cycle steady on the largest machine in the plant.

AUTOMATION BY PRODUCT GROUP

PRODUCT GROUP	MAIN AUTOMATION	WHY
Trays, hoods, feeder bases	Robot take-out, cooling fixtures	Large, warp-prone parts
Toys, bowls with base rings	Two-shot, colour dosing	Two materials, many colours
Buckles, latches, clips	Sprue picker, pull testing	Small load-bearing parts
Feeders, fountains, brushes	Assembly, insert placement	Several parts per product

DECIDING ON AUTOMATION

PART SIZE Large trays and hoods are hard to handle by hand every cycle.	TWO MATERIALS Two-shot removes an assembly step and gives a reliable bond.	RETAIL PACKING Counting and set packing add up across many SKUs.
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INTERFACES TO SPECIFY ON THE MACHINE

ROBOT Signal interface and safety interlocks.	TWO-SHOT Second unit or rotary platen interface.	HOT RUNNER Zones and controller connection.	AUXILIARIES Dryer, loader and colour doser links.
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WHERE THE COST OF A MOULDED PART COMES FROM

MATERIAL PP, TPE, POM	MACHINE per machine hour	LABOUR assembly, packing	POWER kWh per part	MOULD sizes, colours	REJECTION warp, tears	PACKING retail sets
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On trays and hoods, material and machine hours dominate. On buckles and scoops, cavities and packing dominate. Use your own rates to compare options.

SECTION 07 · QUALITY

QUALITY, TESTING & COMMON DEFECTS

A pet product fails in the home: a tray that rocks, a buckle that opens, a toy that tears or a bowl that stains.

TESTS AND CHECKS

CHECK	WHAT IT INVOLVES	LINK TO MOULDING
Food contact	Resin, additives, pigments and overall migration to the food-contact standard asked for ^[1] .	Grade control, colourants, regrind
Toy hardness	Shore A hardness checked against the chewer tier ^{[3][5]} .	Material lot, wall thickness
Pull and cycle	Buckle and latch pull test with the webbing, then cycling.	Material, weld lines, regrind
Chemical resistance	Soak in urine-type solutions and cleaners ^[2] .	Moulded-in stress, grade
Flatness and fit	Tray on a flat table; hood-to-tray fit.	Cooling, gating, pairing
Function	Feeder portioning, flap swing, brush retraction.	Surface finish, fits
Formulation data	Supplier declaration and test data for toy compounds.	Material traceability

Test methods and limits come from the applicable standard or customer specification. Confirm the current edition and certification requirements for each product.

WHERE REJECTS USUALLY COME FROM

LARGE PARTS Warp and short fills on trays, hoods and feeder bases.	SOFT PARTS Tears at ejection, sticking and poor bonds on toys and grips.	SMALL HARDWARE Weld lines and regrind changes that fail pull tests.
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IN-PROCESS CONTROLS

WEIGHT Flags short or overpacked shots.	HARDNESS Shore A spot checks on toys.	FLATNESS Fixture checks on trays and hoods.	COLOUR Against the master for each SKU.
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TROUBLESHOOTING COMMON DEFECTS

DEFECT	POSSIBLE CAUSES	EFFECT ON THE PART	AREAS TO INVESTIGATE
Warp	Uneven cooling, thin long walls	Tray rocks; hood does not fit	Cooling, gating, robot placement
Sticking, tearing	Low draft on maze ribs, soft material	Torn slow feeders and toys	Draft, polish, ejection
Weak weld lines	Grille openings, cold flow fronts	Broken vents and latches	Venting, melt temperature, gate
Sink marks	Thick bosses and ribs	Cosmetic rejects on bowls	Hold pressure, rib design
Poor overmould bond	Wrong bond pair, cold substrate	Grips and rings peel	Material pair, substrate temperature
Splay	Moisture in PA, ABS or PC ^[9]	Streaks, weaker parts	Drying
Stress cracking	Moulded-in stress plus cleaners	Fountain or bowl cracks	Hold, mould temperature, grade
Colour variation	Dosing, regrind, temperature	Mismatched retail sets	Colour dosing, regrind ratio

SECTION 08 · WORKED EXAMPLES

PRACTICAL MACHINE-SELECTION EXAMPLES

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

A · POM COLLAR BUCKLE

LOAD-BEARING

APPLICATION · MATERIAL	Side-release buckle male part · POM
CHARACTERISTICS	Small part with flexing prongs; pull and cycle tested
CAVITIES · OUTPUT	16 · about 2,448 per hour at 20 s (Section 05)
MOULD CONSIDERATIONS	Balanced runner, accurate prong shut-offs, paired female mould
SECONDARY	Pull and cycle testing, pairing, packing
EVALUATE Tonnage is small; shot repeatability and material control matter more, since any grade or regrind change means retesting. STILL NEEDED CAD projected area, webbing size, volume.	

B · PP LITTER TRAY

LARGE + FLAT

APPLICATION · MATERIAL	Cat litter tray · PP copolymer
CHARACTERISTICS	Large shallow part, smooth radii; about 1,575 cm ² projected area (assumed)
CAVITIES · OUTPUT	1 · about 68 per hour at 45 s (Section 05)
MOULD CONSIDERATIONS	Hot runner, balanced cooling, flat placement
SECONDARY	Hood pairing, packing
EVALUATE With K = 0.35 t/cm² and S = 1.15 (as in Section 05), about 634 t calculated, so a clamp rated around 750 t. Platen size and opening stroke also decide. STILL NEEDED CAD projected area, depth, wall, volume per size.	

C · PP LITTER SCOOP

ACCESSORY

APPLICATION · MATERIAL	Litter scoop · PP
CHARACTERISTICS	About 25 g, 60 cm ² projected area (assumed); slotted blade
CAVITIES · OUTPUT	4 · about 612 per hour at 20 s (Section 05)
MOULD CONSIDERATIONS	Slot shut-offs, neck stiffness, venting
SECONDARY	Packing with the tray
EVALUATE The Section 05 table gives about 102 t calculated and a 108 g shot, so a clamp rated around 120 t or more. STILL NEEDED CAD projected area, volume, pack-out.	

WHAT DECIDED THE MACHINE IN EACH EXAMPLE

SELECTION FACTOR	A · BUCKLE	B · LITTER TRAY	C · SCOOP
Main limit	Repeatability, load tests	Platen size, tonnage	Cavities, cycle
Clamp force	Needs projected area	About 750 t rated	About 120 t rated
Auxiliaries	Pull tester, sprue picker	Robot, hot runner	Sprue picker, counting

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 pet care part.

COMPONENT

☐ 2D drawing and 3D CAD model

☐ Part weight, runner weight, wall thickness

☐ Resin grade and hardness

☐ Load-bearing or food-contact features

☐ Overmoulded or inserted parts

PRODUCTION

☐ Monthly volume per size and colour

☐ Parts per retail set

☐ Cavity count and target cycle time

☐ Operating hours and shifts

☐ Seasonal peaks

MOULD

☐ New or existing mould; size and weight

☐ Two-shot or overmould needs

☐ Hot or cold runner

☐ Paired moulds (tray and hood)

☐ Previous machine specification, if any

PET APPLICATION

☐ Food and water contact

☐ Chewer size and hardness tier

☐ Cleaners and UV exposure

☐ Pull, cycle and function tests

☐ Formulation and compliance data

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 PET CARE PARTS
1	Will my litter tray or hood mould fit, with the opening stroke it needs?	Large, shallow parts.
2	Is a two-shot or overmoulding option available?	Toys, grips and base rings.
3	Can the screw handle TPE, POM and nylon without cross-contamination?	Mixed materials in one plant.
4	What shot repeatability does the machine hold at my shot size?	Buckles and latches.
5	What robot and hot runner interfaces are supported?	Trays, hoods and bowls.
6	Can the control store settings per size and colour?	Many retail SKUs.
7	How is colour dosing connected?	Retail colour ranges.
8	What is the energy use per part at my cycle?	Price-driven retail products.
9	Can the machine log shot data for traceability?	Load-bearing and food-contact parts.
10	What installation, training and spare-parts support is included?	Uptime through seasonal peaks.

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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 • other requirements such as food-contact grade, toy hardness, soft-touch overmoulding or packing.

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