



TECHNICAL BUYER'S GUIDE · PRATISHNA ENGINEERS

PVC PIPES & FITTINGS COMPONENTS INJECTION MOULDING MACHINE GUIDE

A practical guide for pipe fitting and valve manufacturers: 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 making PVC, CPVC and PP fittings, valves, adaptors and plumbing 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

PVC PIPES & FITTINGS COMPONENTS & INJECTION MOULDING

Pipes are extruded; the fittings, valves and accessories that join and control them are injection moulded. This guide covers those moulded parts.

WHERE INJECTION MOULDING FITS IN PIPING SYSTEMS

A piping system needs far more moulded parts than pipe lengths: elbows, tees, reducers, unions, couplers, end caps, adaptors, saddles, flanges, valves, clips, tank connectors and traps.

Indian standards separate the services: IS 4985 covers UPVC pipes for potable water^[1], for cold water only, while CPVC to IS 15778 serves hot and cold water and IS 13592 covers soil and waste pipes^[2]. IS 7834 covers injection-moulded PVC socket fittings with solvent-cement joints^[3].

MAIN COMPONENT CATEGORIES

FITTINGS Elbows, tees, reducers, unions	JOINTS & CAPS Couplers, solvent-weld sockets, end caps	ADAPTORS Male and female threaded adaptors	COMPRESSION Compression fitting bodies, nuts and rings
SADDLES & FLANGES Clamp and repair saddles, flanges, flange adaptors	VALVES Ball, gate, check, foot and non-return valves	SUPPORTS Pipe clips, clamps, brackets	TANK & WASTE Tank connectors, P-traps, bottle traps, waste fittings

WHY INJECTION MOULDING SUITS THESE PARTS

- Accurate sockets and threads that match pipe sizes.
- Complex shapes such as tees and valve bodies in one shot.
- Corrosion-free parts at high volume and low cost.

TYPICAL MANUFACTURING CHALLENGES

- PVC degrades and burns if overheated^[4].
- Filling imbalance in multi-cavity moulds^[4].
- Core pulling on large fittings.
- Wide size ranges, each with its own mould.

WHERE MOULDING SITS IN THE PRODUCT CHAIN

COMPOUND UPVC, CPVC, PP, PPR	HANDLING dry blend or granules	INJECTION MOULDING fittings, valve parts	INSERTS & SEALS brass threads, EPDM	ASSEMBLY valves, compression fittings	TESTING pressure, dimensions	DISTRIBUTION with matching pipe
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WHERE THE FITTINGS ARE USED

BUILDING PLUMBING UPVC for cold water, CPVC or PPR for hot water lines ^[2] .	DRAINAGE Soil, waste and vent fittings, traps and waste fittings.	PUMPS & TANKS Foot valves, non-return valves, tank connectors.	INDUSTRIAL PVDF and PPH valves for corrosive media.
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KEY REQUIREMENTS FOR PIPE FITTINGS

PIPE COMPATIBILITY Sockets and threads must match the pipe standard and size series ^{[1][3]} .	PRESSURE & LEAK-TIGHT Fittings on water lines carry the system pressure without leaking.	SERVICE TEMPERATURE UPVC is for cold water; CPVC and PPR for hot water ^[2] .
CHEMICAL RESISTANCE Valves in PVDF or PPH handle corrosive media.	IMPACT & HANDLING Fittings survive site handling and installation.	COST PER PART Commodity fittings need short cycles and low scrap.

SECTION 02 · COMPONENTS

MAJOR PVC PIPES & FITTINGS COMPONENTS

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

COMPONENT	APPLICATION	MATERIAL(S)	INJECTION MOULDING CONSIDERATIONS
Pipe fitting (elbow, tee, reducer, union)	Changing direction and size	UPVC, CPVC, PPR, PP, ABS	Large drainage sizes need very large machines; PVC-spec screw and core pulling ^[3] .
Pipe joint (coupler, solvent-weld socket)	Joining pipe lengths	UPVC, CPVC, PPR, PP	Solvent-weld socket joint; socket depth and diameter decide joint strength.
Pipe end cap	Closing pipe ends	UPVC, CPVC, PP	Multi-cavity part; socket fit.
Threaded adaptor (male/female)	Pipe to threaded fittings	UPVC, CPVC, PP, PPR	May be insert-moulded with a brass or copper thread. Unscrewing cores for moulded threads.
Compression fitting (body, nut, ring)	Mechanical pipe joints	PP, POM (ring), UPVC	Multi-part: POM split ring for grip, EPDM O-ring seal.
Clamp saddle / repair saddle	Tapping or repairing a pipe	UPVC, PP	Two-part clamp with an EPDM seal; bolt bosses and seal groove.
Flange / flange adaptor	Bolted connections	UPVC, PP	Larger flanges need large machines; flat faces and bolt holes.
Plastic valve (ball, gate, check)	Flow control	UPVC, CPVC, PPH, PVDF, PP	Multi-part assembly: body, ball, stem, seals. PVDF or PPH for corrosive media.
Foot valve / non-return valve	Pump suction and backflow	UPVC, PP, POM (internals)	Moving flap or poppet and seal; POM internals.
Tank connector / tank nipple	Tank outlets	PP, UPVC	Threaded body with rubber washers for a water-tight seal.
Pipe clip / clamp / bracket	Pipe support	PP, UPVC, nylon (PA)	Small multi-cavity parts; snap fits.
P-trap / bottle trap / waste fitting	Drainage	PP, UPVC, ABS	Drainage grade, low pressure but bulky; long cores and water seal geometry.

Pipes are extruded and outside this guide. EPDM seals and brass inserts are bought-in parts.

JOINT TYPES AND WHAT THEY ASK OF THE PART

JOINT	TYPICAL SYSTEMS	MOULDING FOCUS
Solvent-weld socket	UPVC and CPVC water and drainage ^[3]	Socket diameter, depth and taper
Fusion	PPR hot and cold water	Fusion faces and wall thickness
Threaded	Adaptors, unions, tank connectors	Thread form, inserts, unscrewing
Compression	PP compression fittings	Body and nut threads, ring seat
Rubber-ring or seal	Saddles, some drainage fittings	Groove geometry and finish

GROUPING BY MOULDING DEMAND

SOCKET FITTINGS Elbows, tees, couplers, caps. Socket accuracy and PVC processing.	THREADED & MULTI-PART Adaptors, compression fittings, valves. Threads, inserts, assembly.	LARGE AND BULKY Drainage fittings, flanges, traps. Core pulling and machine size.
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SECTION 03 · MATERIALS

MATERIALS USED FOR PVC PIPES & FITTINGS

Fittings are moulded from materials that match the pipe system and the service: cold water, hot water, drainage or chemicals.

MATERIAL	TYPICAL COMPONENTS	RELEVANT PROPERTIES	PROCESSING CONSIDERATIONS	LIMITATIONS TO CHECK
UPVC	Fittings, joints, caps, adaptors, saddles, flanges, valves, traps, clips	Rigid, chemically resistant, self-extinguishing ^[5] .	Temperature-sensitive melt that decomposes and burns if overheated ^[4] . Corrosion-resistant screw, barrel and steel.	Cold water only in pressure use ^[2] .
CPVC	Hot and cold water fittings, valves, adaptors	Higher service temperature than UPVC ^[2] .	Narrower processing window than UPVC; same corrosion precautions.	Match compound to pipe and cement system.
PP, PPH	Compression fittings, clips, tank connectors, traps, valves	Tough, chemical resistant, low cost; PPH for corrosive media.	Shrinkage and warpage; easy to mould.	Lower stiffness than UPVC.
PPR	Hot and cold water fittings, joints, adaptors	Heat-fusion welded systems.	Standard polyolefin processing.	Joined by fusion, not solvent cement.
PVDF	Valves for corrosive media	High chemical resistance.	High melt temperature; special screw and barrel.	Cost; dedicated equipment.
POM	Compression rings, valve internals	Stiff, low friction; used for pumps and valves ^[8] .	Never process in the same barrel as PVC.	Not recommended outside pH 4 to 9 ^[8] .
ABS	Drainage fittings, traps	Rigid, tough.	Needs drying.	Chemical resistance for waste service.
Nylon (PA)	Pipe clips and brackets	Strength, flexibility.	Must be dried.	Moisture changes properties.

General material behaviour only. Confirm compound data and pipe-system compatibility with the supplier.

MATCHING FITTING MATERIAL TO THE SERVICE

SERVICE	PIPE STANDARD	FITTING MATERIALS IN THIS GUIDE
Cold potable water	IS 4985 UPVC ^{[1][2]}	UPVC, PP
Hot and cold water	IS 15778 CPVC ^[2] , or PPR systems	CPVC, PPR
Soil and waste	IS 13592 UPVC ^[2]	UPVC, PP, ABS
Corrosive media	Project specification	PVDF, PPH

PVC AND POM IN ONE PLANT

Many fitting plants also mould POM rings and valve parts. Keep PVC and POM on separate machines, or purge very thoroughly between them, and never mix regrind. Follow each supplier's processing guide.

MATERIAL SELECTION QUESTIONS

- ☐ Which pipe standard and size series must the fitting match?
- ☐ Cold water, hot water, drainage or chemicals?
- ☐ Solvent, fusion, threaded or compression joint?
- ☐ Are inserts or seals part of the fitting?

SECTION 04 · DESIGN & MOULD

COMPONENT DESIGN & MOULD REQUIREMENTS

Fitting moulds are dominated by cores: every socket, branch and thread is a core that must be pulled, and PVC demands corrosion-resistant steel.

DESIGN FEATURES THAT AFFECT MOULDING

FEATURE	WHY IT MATTERS IN FITTINGS	MOULDING IMPLICATION
Sockets	Solvent-weld and push-fit joints depend on socket size and depth ^[3] .	Accurate core pins, stable shrinkage and cooling.
Branches	Tees and wyes have cores from several directions.	Side cores and hydraulic core pulls.
Threads	Adaptors, unions, tank connectors and compression nuts.	Unscrewing or collapsible cores; thread-start accuracy.
Thick walls	Pressure fittings and flanges are thick.	Sink and void risk; long cooling; careful packing.
Inserts	Brass threads in adaptors.	Insert location and retention; loading every cycle.
Seal grooves	Saddles, unions and compression fittings hold O-rings.	Groove dimensions and surface finish.
Long cores	Traps and large drainage fittings.	Core support and deflection; balanced filling.

MOULD CONSIDERATIONS

ITEM	FITTING POINTS	ITEM	FITTING POINTS
Cavity layout	Small fittings and clips: 4 to 32. Large fittings and flanges: 1 or 2.	Steel	Corrosion-resistant steel for PVC and CPVC.
Runner	Balanced layouts for multi-cavity PVC moulds ^[4] .	Cooling	Thick walls set the cycle.
Core pulls	Hydraulic cores for branches; unscrewing for threads.	Size families	One mould base with inserts for several sizes.
Venting	Good venting avoids burning in PVC.	Mould size	Large fittings need large platens and long strokes.

PLANNING A SIZE RANGE

MOULD BASES	CORE SETS	FAMILY MOULDS	BIG SIZES
One base with size inserts cuts mould cost.	Interchangeable cores for socket sizes.	Small caps and couplers can share a mould.	Large diameters may need their own machine.

SECONDARY OPERATIONS THAT SHAPE THE MOULD

OPERATION	TYPICAL PARTS	WHAT IT ASKS OF THE MOULDED PART
Insert placement	Threaded adaptors	Accurate insert seats and locating features.
Seal and ring fitting	Saddles, unions, compression fittings, tank connectors	Groove and seat dimensions held to size.
Valve assembly	Ball, gate, check and foot valves	Mating faces, stem bores and seat geometry.

SECTION 05 · PRODUCTION PLANNING

PRODUCTION CAPACITY & CYCLE-TIME PLANNING

Fitting plants run many sizes. Small parts run in multi-cavity moulds, large fittings run one or two per cycle, and total machine hours come from the whole size range.

OUTPUT

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

Effective/hour = Parts/hour × Utilisation

Day = Effective/hour × Hours run

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

EXAMPLE 1 · 32-CAVITY PP PIPE CLIP

32 × 3600 ÷ 12 s = 9,600 /h

× 0.85 utilisation = 8,160 /h

× 22 h = 179,520 /day

× 26 days = 4,667,520 /month

EXAMPLE 2 · 4-CAVITY UPVC DRAINAGE TEE

4 × 3600 ÷ 60 s = 240 /h

× 0.85 = 204 /h · × 22 h = 4,488 /day

× 26 days = 116,688 /month

Working backwards: for 150,000 tees a month in 572 running hours, you need 262 per hour. Cavities = $262 \times 60 \div (3600 \times 0.85) \approx 5.1$, so a 6-cavity mould or a second machine.

Illustrative example. Cycle times of 12 s and 60 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	FITTING INFLUENCE
Injection & hold	Controlled filling of heat-sensitive PVC.
Cooling	Usually the largest share; rises roughly with wall thickness squared ^[7] .
Core pulls	Branch cores and unscrewing add time.
Inserts	Brass inserts loaded each cycle.

BALANCING CAVITIES, CLAMP FORCE AND OUTPUT

PP PIPE CLIP MOULD	PROJECTED AREA	CALCULATED FORCE	RATED AT 85%	SHOT	EFFECTIVE OUTPUT
16 cavities	60 cm ²	24 t	28 t	38 g	4,080 /h
32 cavities	114 cm ²	46 t	54 t	73 g	8,160 /h
48 cavities	170 cm ²	68 t	81 t	109 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^[6], about 0.28 to 0.42 t/cm²; K = 0.35 t/cm² and S = 1.15 assumed. Also assumed: 3 cm² and 2 g per clip, runner area 12 / 18 / 26 cm² and weight 6 / 9 / 13 g, 12 s cycle, 85% utilisation.

PLANNING TOTAL MACHINE HOURS

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

Add the hours for every size and fitting type, then divide by the running hours available per machine (572 in these examples) to see how many machines the range needs.

MACHINE UTILISATION AND PLANNED DOWNTIME**SIZE CHANGES**

Group sizes that share a mould base; plan insert changes.

PVC PURGING

Purge PVC out before stops and before any other material.

MATERIAL CHANGES

Separate UPVC, CPVC and PP runs where possible.

SEASONAL DEMAND

Build stock of fast-moving sizes ahead of peaks.

SECTION 06 · AUTOMATION

AUTOMATION & PRODUCTION EFFICIENCY

In fitting plants, automation mainly saves handling of runners, inserts and counting across many sizes.

AUTOMATION	WHERE IT ADDS VALUE IN FITTINGS	WHEN IT USUALLY MAKES SENSE
Sprue picker	Removes cold runners from fitting and clip moulds.	Multi-cavity cold-runner moulds on continuous runs.
Robot take-out	Removes large fittings and flanges.	Heavy parts and long cycles.
Insert loading	Places brass threaded inserts.	Insert-moulded adaptors at volume.
Conveyors & separators	Separate parts from runners and carry them away.	Small fittings, caps and clips.
Counting & bagging	Counts fittings into dealer packs by size.	Small fittings sold in fixed quantities.
Assembly	Valves, compression fittings, saddles with seals.	Multi-part products at volume.
Leak testing	Checks valve and fitting assemblies.	Valves and pressure assemblies.
Material handling	Closed conveying of PVC compound; regrind control.	Several machines on the same compound.

Fitting plants often run dozens of moulds for different sizes. Automation that works across sizes, such as sprue pickers, conveyors and counting units, usually pays back before automation built for one mould.

AUTOMATION BY PRODUCT GROUP

PRODUCT GROUP	MAIN AUTOMATION	WHY
Small fittings, caps, clips	Sprue picker, conveyor, counting	High counts per hour, sold by count
Threaded adaptors	Insert loading	Brass insert placed every cycle
Large fittings, flanges	Robot take-out	Heavy parts, long cycles
Valves, compression fittings	Assembly and leak test	Several parts plus seals per product

DECIDING ON AUTOMATION

VOLUME & LABOUR Runner removal, counting and packing across many sizes add up.	INSERTS Automated loading keeps hands out of the mould and the cycle steady.	HEAVY PARTS Large fittings are hard to remove by hand every cycle.
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INTERFACES TO SPECIFY ON THE MACHINE

CORE PULLS Hydraulic circuits for branch cores and unscrewing.	ROBOT Signal interface and safety interlocks.	TEMPERATURE Accurate barrel and nozzle zones for PVC.	AUXILIARIES Conveyor, counter and loader connections.
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WHERE THE COST OF A MOULDED PART COMES FROM

MATERIAL PVC compound	MACHINE per machine hour	LABOUR handling, packing	POWER kWh per part	MOULD many sizes	REJECTION burns, sinks	PACKING by size
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On thick fittings, material and cooling time dominate. On small clips and caps, machine hours and packing dominate. A wide size range multiplies mould cost, so standard mould bases with size inserts help. Use your own rates to compare options.

SECTION 07 · QUALITY

QUALITY, TESTING & COMMON DEFECTS

A fitting is judged on site: it must fit the pipe, hold pressure and not crack when the joint is made.

TESTS AND CHECKS

CHECK	WHAT IT INVOLVES	LINK TO MOULDING
Fitting standard	IS 7834 covers injection-moulded PVC socket fittings with solvent-cement joints, with parts for specific fitting types ^[3] .	Socket dimensions, voids, weld lines
Pipe system match	Fittings must suit the pipe to IS 4985, IS 15778 or IS 13592 used in the system ^{[1][2]} .	Size series, material, socket design
Pressure & leak	Hydraulic and leak tests per the applicable standard or customer specification.	Wall integrity, weld lines, sinks
Dimensional	Socket diameter and depth, threads, flange faces.	Shrinkage, cooling, core position
Valve function	Operation, sealing and leak tests on valves.	Seat geometry, stem bores
Trial joint	Test assembly with pipe and solvent cement or fusion.	Socket fit and surface
Marking	Size, material and standard marks legible.	Engraving depth, filling

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

IN-PROCESS CONTROLS

SOCKET GAUGES Go / no-go on socket size and depth.	WEIGHT BY CAVITY Flags filling imbalance ^[4] .	VISUAL Burns, streaks and flash.	THREAD GAUGES Adaptors, unions and nuts.
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TROUBLESHOOTING COMMON DEFECTS

DEFECT	POSSIBLE CAUSES	EFFECT ON THE FITTING	AREAS TO INVESTIGATE
Burn marks, black streaks	Overheated or degraded PVC, high shear, trapped air ^[4]	Weak fittings, visual rejects	Barrel temperatures, residence time, venting, purging
Unbalanced filling	Runner imbalance in multi-cavity moulds ^[4]	Short or overpacked cavities	Runner layout, injection rate
Sink marks & voids	Thick walls, short hold	Leaks and weak sockets	Hold pressure and time, wall design
Weld lines	Flow fronts meeting around cores	Cracking under pressure	Gate position, melt temperature
Core shift	Long unsupported cores	Uneven walls, off-size sockets	Core support, balanced filling
Flash	Worn shut-offs, low clamp	Poor fit, trimming	Parting line, clamp setting
Splay	Moisture in ABS or PA	Streaks, weaker parts	Drying
Brittle fittings	Degraded PVC, cold mould, high stress	Cracks when joints are made	Temperatures, residence time, hold

SECTION 08 · WORKED EXAMPLES

PRACTICAL MACHINE-SELECTION EXAMPLES

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

A · PP PIPE CLIP		VOLUME
APPLICATION · MATERIAL	Pipe support clip · PP	
CHARACTERISTICS	About 2 g, 3 cm ² projected area (assumed); snap fit and screw hole	
CAVITIES · OUTPUT	32 · about 8,160 per hour at 12 s (Section 05)	
MOULD CONSIDERATIONS	Balanced runner, venting, hardened shut-offs	
SECONDARY	Counting and bagging by size	
EVALUATE The Section 05 table gives about 46 t calculated and a 73 g shot, so a clamp rated around 54 t or more. Fast cycling and counting matter more than tonnage. STILL NEEDED CAD projected area, size range, monthly volume.		

B · UPVC DRAINAGE TEE		PVC + CORE PULLS
APPLICATION · MATERIAL	Drainage tee · UPVC compound	
CHARACTERISTICS	Three sockets from three directions; thick walls	
CAVITIES · OUTPUT	4 for small sizes · about 204 per hour at 60 s (Section 05)	
MOULD CONSIDERATIONS	Hydraulic core pulls, balanced runner, corrosion-resistant steel	
SECONDARY	Packing by size	
EVALUATE Tonnage needs projected area; large diameters need very large machines. PVC-ready screw and barrel, accurate temperature control and core-pull circuits drive the choice. STILL NEEDED size range, compound data, mould drawings, volume per size.		

C · PP BALL VALVE		MULTI-PART ASSEMBLY
APPLICATION · MATERIAL	Line ball valve · PP or PPH body (to be confirmed)	
CHARACTERISTICS	Body, ball, stem and handle with seals	
CAVITIES · OUTPUT	Separate moulds per part · set by assembly rate	
MOULD CONSIDERATIONS	Threads or unions, seat geometry, stem bore accuracy	
SECONDARY	Valve assembly and leak testing	
EVALUATE Plan machines for each part: the body is the largest and sets the biggest machine; smaller parts can share machines. STILL NEEDED drawings of all parts, grades, valve size range, volume.		

WHAT DECIDED THE MACHINE IN EACH EXAMPLE

SELECTION FACTOR	A · PIPE CLIP	B · DRAINAGE TEE	C · BALL VALVE
Main limit	Cycle speed, cavities	PVC processing, core pulls	Number of parts
Clamp force	About 54 t rated	Needs projected area	Largest part sets it
Auxiliaries	Conveyor, counter	Core-pull control, sprue picker	Assembly, leak test

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 pipe fitting or valve.

COMPONENT

- ☐ 2D drawing and 3D CAD model
- ☐ Part weight, runner weight, wall thickness
- ☐ Compound or grade data
- ☐ Socket, thread and flange dimensions
- ☐ Inserts and seals

PRODUCTION

- ☐ Monthly volume per size
- ☐ Size and colour range
- ☐ Cavity count and target cycle time
- ☐ Operating hours and shifts
- ☐ Packing quantities

MOULD

- ☐ New or existing mould; size and weight
- ☐ Core pulls and unscrewing needed
- ☐ Mould steel for PVC
- ☐ Size inserts or separate moulds
- ☐ Previous machine specification, if any

PIPING APPLICATION

- ☐ Pipe standard and size series
- ☐ Cold, hot, drainage or chemical service
- ☐ Joint type: solvent, fusion, thread, compression
- ☐ Pressure rating
- ☐ Certification required

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 FITTINGS
1	Is a PVC-ready screw, barrel and nozzle available, and how is it protected from corrosion?	UPVC and CPVC fittings.
2	How accurate is barrel and nozzle temperature control?	PVC degrades if overheated.
3	How many hydraulic core-pull and unscrewing circuits are available?	Tees, wyes and threaded parts.
4	Will my largest fitting or flange mould fit, with the stroke it needs?	Large drainage fittings.
5	What shot repeatability does the machine hold at my shot size?	Socket sizes and cavity balance.
6	What robot and insert-loading interfaces are supported?	Brass-insert adaptors and heavy parts.
7	Can the control store settings for each size?	Frequent size changes.
8	What is the energy use per part at my cycle?	Low price per fitting.
9	Can the machine log shot data for traceability?	Certified products and batch records.
10	What installation, training and spare-parts support is included?	Seasonal demand needs reliable 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 · other requirements such as pipe standard, sizes or automation.

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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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