

Patel Precision
CNC Machining Solutions

PATEL PRECISION PVT. LTD.

Precision Engineering. Global Manufacturing.

CNC Machining | Precision Components | OEM Manufacturing

ESTABLISHED 2013 · ISO 9001:2015 CERTIFIED · INDIAN RAILWAYS APPROVED VENDOR · NSIC ENLISTED

EXPORT MARKETS: USA | CANADA | EUROPE | INDIA | WORLDWIDE

A16/5, Harihar Corporation, Dapode, Bhiwandi 421302, Maharashtra, India · www.patelprecision.com · +91 98208 08852

Contents

01 Company ataGlance

02 Why Patel Precision

03 Manufacturing Capability

04 Machinery Master Matrix Multi-

05 Axis CNC Machining CNC

06 Turning & Automation Quality

07 Assurance & Metrology

08 Certifications & Credentials

09 Material Capability

10 Product Portfolio Overview 5-Axis

11 Precision Components

12 Compressor Components

13 Hydraulic & Pneumatic Manifolds

14 Spray Nozzles & Tank Cleaning

15 Precision Turned Components

16 Medical & Surgical Components

17 Automotive Components

18 Flanges & Pipe Fittings

19 Industrial & Custom Components

20 Value-Added Manufacturing

21 Global Supply & Export Readiness

22 OEM Manufacturing Workflow

23 Partner With Patel Precision



Company at a Glance

Patel Precision Pvt. Ltd. is a precision CNC machining and engineering manufacturer based in Bhiwandi, Maharashtra, India, operating from an integrated machining plant within the Mumbai industrial belt. Established in 2013, the company manufactures close-tolerance machined components for OEMs, engineering companies and industrial equipment manufacturers across domestic and international markets.

Manufacturing is built around a multi-axis VMC and CNC turning ecosystem, supported by dedicated metrology, an ISO 9001:2015 quality management system, and an established network for heat treatment, grinding and surface finishing. Components are produced to customer drawing and specification, from prototype and replacement parts through to repeat production batches.

The company is registered with the Ministry of Railways, Government of India, is an approved machining vendor for Rail Coach Factory, Kapurthala, and is enlisted with NSIC.

MANUFACTURINGPLANT—DAPODE, BHIWANDI



CNCPRODUCTIONFLOOR



VMCMACHININGCENTRE

25+ years
Experience

35+
CNC MACHINES INSTALLED

5-Axis
MACHINING

02 VALUEPROPOSITION

Why Patel Precision

A procurement-oriented manufacturing partner: multi-axis machining depth, controlled inspection, diverse material capability and an integrated value-added network — delivered under a certified quality system.

01
Multi-Axis CNC Machining
5-axis, 4-axis and 3-axis VMC capability for complex geometry in fewer setups.

02
Broad CNC Turning Capacity
16 CNC turning centres plus Traub automats for volume turned components.

03
Integrated Manufacturing
Machining, grinding, heat treatment and surface finishing coordinated as one supply.

04
Diverse Material Capability
Stainless, alloy and carbon steels, aluminium, brass, bronze and engineering polymers.

05
Dedicated Metrology
CMM, profile projector, height gauges, micrometers and surface roughness testing.

06
Certified Quality System
ISO 9001:2015 assessed by RAPL, accredited by EGAC and IAF MLA.

07
Government Credentials
Ministry of Railways registered; RCF Kapurthala approved machining vendor; NSIC enlisted.

08
Export-Oriented Supply
Established supply to customers in the USA, Canada, Europe, India and worldwide.

09
Custom & OEM Components
Manufactured to component drawing and customer specification.



Manufacturing Capability

The plant is organised around two integrated cells: a vertical machining centre cell for prismatic and contoured components, and a turning cell for rotational parts. Sawing, broaching and secondary operations feed both cells, allowing components to move from raw bar or blank to finished, inspected part within a single facility.

Production is planned around component drawings and customer specifications, supporting prototype quantities, replacement components and repeat production batches on the same machine base.

PROCESS AREA	CAPABILITY
Prismatic machining	5-axis / 4-axis / 3-axis VMC
Rotational machining	CNC turning centres, Traub automats
Cutting & preparation	Fully automatic band saws, dia up to 250 mm
Secondary operations	Broaching SPM 6 Ton, drilling, tapping
Allied processes	Grinding, heat treatment, plating, finishing
Inspection	CMM, profile projector, gauges, roughness testing
Batch capability	Prototype, replacement and repeat production batches
Specification basis	As per component drawing and customer specification



MACHINESHOP — WIDE ESTABLISHING VIEW



VMC MACHININGIN PROGRESS

Machinery Master Matrix

MACHINE	MAKE	WORKING ENVELOPE / CAPACITY	UNITS
CNC Turning	ACE, Jyoti	250 x 450 mm	20
3-Axis VMC	AMS, Jyoti	400 x 350 x 350 mm	3
Fully Automatic Band Saw	—	Dia up to 250 mm	3
Automat Traub	—	Dia up to 25 mm	3
5-Axis VMC	Cosmos, BFW	850 x 500 x 500 mm	2
4-Axis VMC	AMS, Cosmos	400 x 350 x 350 mm	2
Broaching SPM	SPM	6 Ton	1

20

CNC TURN I N G



CNC TURNING LINE



VMC OPERATIONS AREA

Multi-Axis CNC Machining

5-AXIS VMC

3 Units

MAKES:COSMOS · BFW

ENVELOPE: 850X 500X500 MM

Complex contoured geometry, load-cell bodies, housings and multi-face components machined in fewer setups.

4-AXIS VMC

3 Units

MAKES:AMS · COSMOS

ENVELOPE: 400X350X350 MM

Indexed and continuous rotary machining for multi-face prismatic parts and fixtures.

3-AXIS VMC

3 Units

MAKES:AMS · JYOTI

ENVELOPE: 400X350X350 MM

Milling, drilling, boring and tapping for plates, blocks and precision prismatic components.

Typical applications: load-cell bodies, aerospace-type precision components, defence-type housings, hydraulic and pneumatic manifold blocks, and complex machined parts requiring multi-face accuracy. All components manufactured as per component drawing and customer specification.



5-AXIS VMC — SHOP FLOOR VIEW


VMC MACHINING CELL


5-AXIS MACHINED COMPONENT


MACHINING ENVELOPE — IN - CYCLE

CNC Turning & Automation

The turning cell is the volume backbone of the plant: 16 CNC turning centres from ACE and Jyoti with a 250 x 450 mm capacity, supported by three Traub automats for small-diameter components up to 25 mm. Fully automatic band saws prepare billets and bar stock up to 250 mm diameter, and a 6 Ton broaching SPM handles keyway and profile broaching.

TURNING RESOURCE	CAPABILITY
CNC turning centres	20 units — ACE, Jyoti — 250 x 450 mm
Automat Traub	3 units — diameter up to 25 mm
Band sawing	3 fully automatic saws — diameter up to 250 mm
Broaching	SPM — 6 Ton
Component types	Shafts, bushings, pins, adapters, fittings, turned parts
Materials	Stainless, alloy and carbon steels, aluminium, brass, bronze, polymers
Specification	As per component drawing and customer specification



CNC SECTION



SECONDARY MACHINE SHOP



5 AXIS VMC MACHINING

07 INSPECTION

Quality Assurance & Metrology

Quality is managed under an ISO 9001:2015 certified quality management system. Components are inspected against the customer drawing at defined stages, with dimensional, geometric and surface finish verification carried out using dedicated metrology equipment before documentation and dispatch.

	FUNCTION
Coordinate Measuring Machine (CMM)	Dimensional and geometric verification
Optical Profile Projector	Profile and contour inspection
Calibrated Height Gauges	Height and step verification
Micrometers	In-process dimensional checks
Surface Roughness Testers	Surface finish verification



VISION MEASURING SYSTEM


INSPECTED COMPONENTS

QUALITYCONTROLWORKFLOW

01 Raw Material Verification › 02 In-Process Inspection › 03 Dimensional Verification › 04 Profile / Geometric Inspection › 05 Surface Finish Verification › 06 Final Inspection › 07 Documentation & Dispatch

Certifications & Credentials



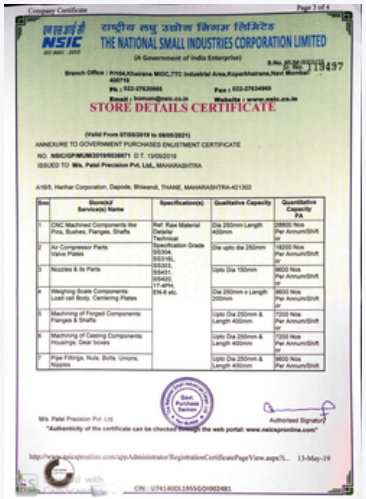
ISO 9001:2015 CERTIFIED

Quality Management System assessed by RAPL, accredited by EGAC and IAF MLA.



MINISTRY OF RAILWAYS, GOVT. OF INDIA

Registered vendor. Rail Coach Factory, Kapurthala — approved machining vendor.

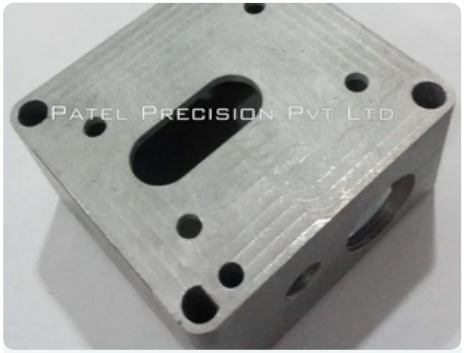


NSIC ENLISTED

Enlisted with National Small Industries Corporation Ltd., Government of India.

Credentials are stated exactly as issued. Certificates and vendor registration documents are available on request for supplier qualification and vendor onboarding.

Material Capability



BRASS

- SS 304
- SS 316L
- SS 303
- SS 431
- SS 420
- 17-4 PH



CARBON / ALLOY STEELS

- EN-8
- Alloy Steels



MILD STEEL

- Aluminium
- Brass
- Bronze



CI CASTING

- High-performance engineering polymers

Material selection is made against the component drawing and customer specification. Material documentation is provided where required by the customer.

Product Portfolio Overview



5-Axis Machined Components



Compressor Valve Assemblies & Plates



Hydraulic & Pneumatic Manifolds



Spray Nozzles & Tank Cleaning



Precision Turned Components



Medical & Surgical Components



Automotive Components



SS Flanges & Pipe Fittings



Industrial Rollers



Cable Glands



Junction Boxes



Custom Fasteners

INDUSTRIESSERVED

- Aerospace-type components
- Defence-type housings
- Automotive & transmission
- Railways & rolling stock
- Compressor & pneumatics
- Hydraulics & fluid power
- Medical & surgical
- Process & industrial equipment
- Electrical & instrumentation
- Oil, gas & piping

5-Axis Precision Components

Complex, multi-face components machined on 5-axis vertical machining centres with an 850 x 500 x 500 mm working envelope, reducing setups and re-fixturing on contoured and geometrically demanding parts.

- Load-cell bodies and instrumented components
- Aerospace-type precision components
- Defence-type housings and enclosures
- Complex contoured and multi-face components

PARAMETER	CAPABILITY
Manufacturing Process	5-axis CNC milling (Cosmos, BFW)
Working Envelope	850 x 500 x 500 mm
Materials	Stainless steels, alloy steels, aluminium, brass, bronze
Application	Instrumentation, aerospace-type, defence-type, industrial
Inspection	CMM, profile projector, surface roughness testing
Finishing	Grinding, plating, anodizing, electropolishing as specified
Tolerances	As per component drawing and customer specification



5-AXIS MACHINED COMPONENT



5 - AXIS VMC — SHOP FLOOR



PRECISION MACHINED PARTS

Compressor Valve Assemblies & Plates

Precision compressor components and OEM replacement parts, including valve plates, valve assemblies, pistons and cylinder components, manufactured to the customer's component drawing.

- Valve plates and valve assemblies
- ELGI 100 dia and 60 dia type components
- Kirloskar Cr105 / 90Ds / 100Ds type components
- Pistons, cylinder components and OEM replacement parts

PARAMETER	CAPABILITY
Manufacturing Process	CNC turning and CNC milling
Component Type	Valve plates, valve assemblies, pistons, cylinder components
Materials	Stainless steels, alloy steels, carbon steels
Application	Reciprocating air compressors, replacement market
Inspection	Dimensional, profile and surface finish verification
Finishing	Grinding, hardening and surface treatment as specified
Specification	As per component drawing and customer specification



COMPRESSOR VALVE PLATES



VALVE ASSEMBLY COMPONENTS



MACHINED VALVE PLATE DETAIL

Hydraulic & Pneumatic Manifold Blocks

Machined manifold blocks for hydraulic and pneumatic systems, consolidating valve porting and internal passages into a single compact block for leak-free system integration.

- High-flow hydraulic and pneumatic applications
- Complex cross-drilled internal passages
- Leak-free port and seat integration
- Compact system integration in place of multiple fittings

PARAMETER	CAPABILITY
Manufacturing Process	3, 4 and 5-axis CNC milling
Component Type	Hydraulic and pneumatic manifold blocks
Materials	Aluminium, carbon and alloy steels, stainless steels
Application	Fluid power, hydraulics, pneumatics, industrial equipment
Inspection	CMM dimensional and geometric verification
Finishing	Anodizing, blackening, plating as specified
Porting & Passages	As per component drawing and customer specification



HYDRAULIC MANIFOLD BLOCK



VMC MACHINING CENTRE



VMC MACHINING AREA

Spray Nozzles & Tank Cleaning Systems

Precision machined industrial spray nozzles and tank cleaning equipment for process, cleaning and CIP applications, produced in corrosion-resistant materials.

- Jet nozzles
- Full-cone nozzles
- Rotary CIP cleaning heads
- Tank cleaning systems and assemblies

PARAMETER	CAPABILITY
Manufacturing Process	CNC turning and CNC milling
Component Type	Jet nozzles, full-cone nozzles, rotary CIP heads, tank cleaning systems
Materials	Stainless steels, brass, engineering polymers
Application	Industrial cleaning, CIP, process equipment
Inspection	Dimensional and profile verification
Finishing	Electropolishing and surface finishing as specified
Orifice / Flow	As per component drawing and customer specification



INDUSTRIAL SPRAY NOZZLES



FULL - CONE NOZZLE RANGE

Precision Turned Components

Turned components produced across 16 CNC turning centres and three Traub automats, covering repeat production batches of rotational parts to customer drawing.

- Custom bushings
- Pins and dowels
- Shafts and spindles
- General precision turned components

PARAMETER	CAPABILITY
Manufacturing Process	CNC turning (ACE, Jyoti), Traub automats
Turning Capacity	250 x 450 mm; Traub up to 25 mm diameter
Component Type	Bushings, pins, shafts, adapters, turned parts
Materials	Stainless, alloy and carbon steels, aluminium, brass, bronze, polymers
Application	General engineering, OEM assemblies, replacement components
Inspection	Micrometers, height gauges, CMM, surface roughness testing
Specification	As per component drawing and customer specification



CNC TURNED COMPONENTS



CUSTOM TURNED PARTS



BUSHINGS, PINS AND SHAFTS

Medical & Surgical Components

Micro-machined precision components for medical and surgical equipment applications, produced in biocompatible alloys such as stainless steel grades suited to medical use.

- Micro-machined precision components
- Biocompatible alloy machining
- Surgical instrument components
- Fine-feature turning and milling

PARAMETER	CAPABILITY
Manufacturing Process	CNC turning, CNC milling, multi-axis machining
Materials	Biocompatible stainless steel grades, engineering polymers
Component Type	Micro-machined medical and surgical components
Application	Medical devices and surgical equipment manufacturers
Inspection	Profile projector, CMM, surface roughness testing
Finishing	Electropolishing and surface finishing as specified
Specification	As per component drawing and customer specification



MEDICAL PRECISION COMPONENTS



MICRO - MACHINED COMPONENT



VISION MEASURING INSPECTION

Automotive Components

Machined automotive components for OEM and tier supply, covering rotational and prismatic parts manufactured on the turning and VMC cells.

- Gear blanks
- Clutch components
- Brake components
- Housings and machined assemblies

PARAMETER	CAPABILITY
Manufacturing Process	CNC turning, CNC milling, broaching (6 Ton SPM)
Component Type	Gear blanks, clutch and brake components, housings
Materials	Alloy steels, EN-8, carbon steels, aluminium
Application	Automotive OEM and tier supply, replacement components
Inspection	CMM, gauges, surface roughness testing
Finishing	Carburizing, hardening, tempering, plating as specified
Specification	As per component drawing and customer specification



AUTOMOTIVE MACHINED COMPONENTS



MACHINED COMPONENT RANGE



CNC TURNING CELL

Stainless Steel Flanges & Precision Pipe Fittings

CNC machined stainless steel flanges and precision pipe fittings in ANSI and DIN configurations, with custom bore, bolt patterns and pressure ratings to customer requirement.

- Stainless steel flanges
- Precision pipe fittings
- ANSI configurations
- DIN configurations
- Custom pressure ratings on requirement

PARAMETER	CAPABILITY
Manufacturing Process	CNC turning and CNC milling
Component Type	Flanges, elbows, tees, couplings, adapters
Materials	SS 304, SS 316L, SS 303, alloy and carbon steels, brass
Standards	ANSI and DIN configurations
Application	Piping systems, process equipment, fluid handling
Inspection	Dimensional and geometric verification
Pressure Rating	As per component drawing and customer specification



STAINLESS STEEL FLANGES



PRECISION PIPE FITTINGS



PIPE FITTING RANGE

Industrial & Custom Components

Additional precision product families manufactured to customer drawing, covering industrial, electrical and tooling applications.

- Industrial rollers
- Precision tool holders
- Cable glands
- Junction boxes
- Custom fasteners

PARAMETER	CAPABILITY
Manufacturing Process	CNC turning, CNC milling, grinding
Component Type	Rollers, tool holders, cable glands, junction boxes, fasteners
Materials	Stainless steels, alloy and carbon steels, aluminium, brass, polymers
Application	Industrial equipment, electrical, instrumentation, tooling
Inspection	Dimensional, geometric and surface finish verification
Finishing	Hard chrome plating, anodizing, blackening as specified
Specification	As per component drawing and customer specification



INDUSTRIAL ROLLERS



CABLE GLANDS



JUNCTION BOX ENCLOSURE



CUSTOM FASTENERS

Value-Added Manufacturing

Machining is supported by an allied and certified service network covering heat treatment, surface finishing and precision grinding. These processes are coordinated by Patel Precision as part of the overall supply, so customers receive a finished, inspected component rather than managing multiple vendors. Processes are performed in-house or through the allied network depending on the process and component requirement.



HEAT TREATMENT

- Carburizing
- Hardening
- Tempering
- Nitriding



SURFACE FINISHING

- Hard Chrome Plating
- Anodizing
- Electropolishing
- Blackening



PRECISION GRINDING

- Cylindrical Grinding
- Surface Grinding

Finishing and heat treatment options are selected as per component drawing and customer specification. Process documentation is provided where required.

Global Supply & Export Readiness

Patel Precision supplies customers in the USA, Canada, Europe, India and other international markets, with export handling built into the dispatch process.

EXPORT PACKAGING

- Protective component packaging
- Part segregation by item and batch
- Corrosion protection where required
- Labelling and identification
- Export-oriented packing

DOCUMENTATION

- Commercial invoice (standard)
- Packing list (standard)
- Shipping documentation (standard)
- Material / inspection documentation (on requirement)
- Certificate of conformity (on requirement)

LOGISTICS

- Air freight
- Sea freight
- International shipment coordination
- Dispatch planning with the customer's forwarder

Standard export documentation is issued with every international shipment. Additional quality, material or conformity documentation is supplied where required by the customer.



OEM / Custom Manufacturing Workflow

A structured, drawing-driven route from enquiry to dispatch, with defined inspection and documentation control at each stage.

01
RFQ
Enquiry, drawing and quantity review with commercial response.

02
Drawing Review
Feature, tolerance and m anufacturability review against the drawing.

03
Material
Material selection, procurement and verification.

04
CNC Machining
Turning, milling and multi-axis machining on the planned route.

05
Inspection
In-process dimensional and geometric verification.

06
Finishing
Grinding, heat treatment, plating and surface finishing as specified.

07
Final QA
Final dimensional, profile and surface finish inspection.

08
Packaging
Protective, labelled and export-oriented packing.

09
Dispatch
Documentation, shipment coordination and delivery.


RAW MATERIAL PREPARATION


CNC MACHINING INPROCESS

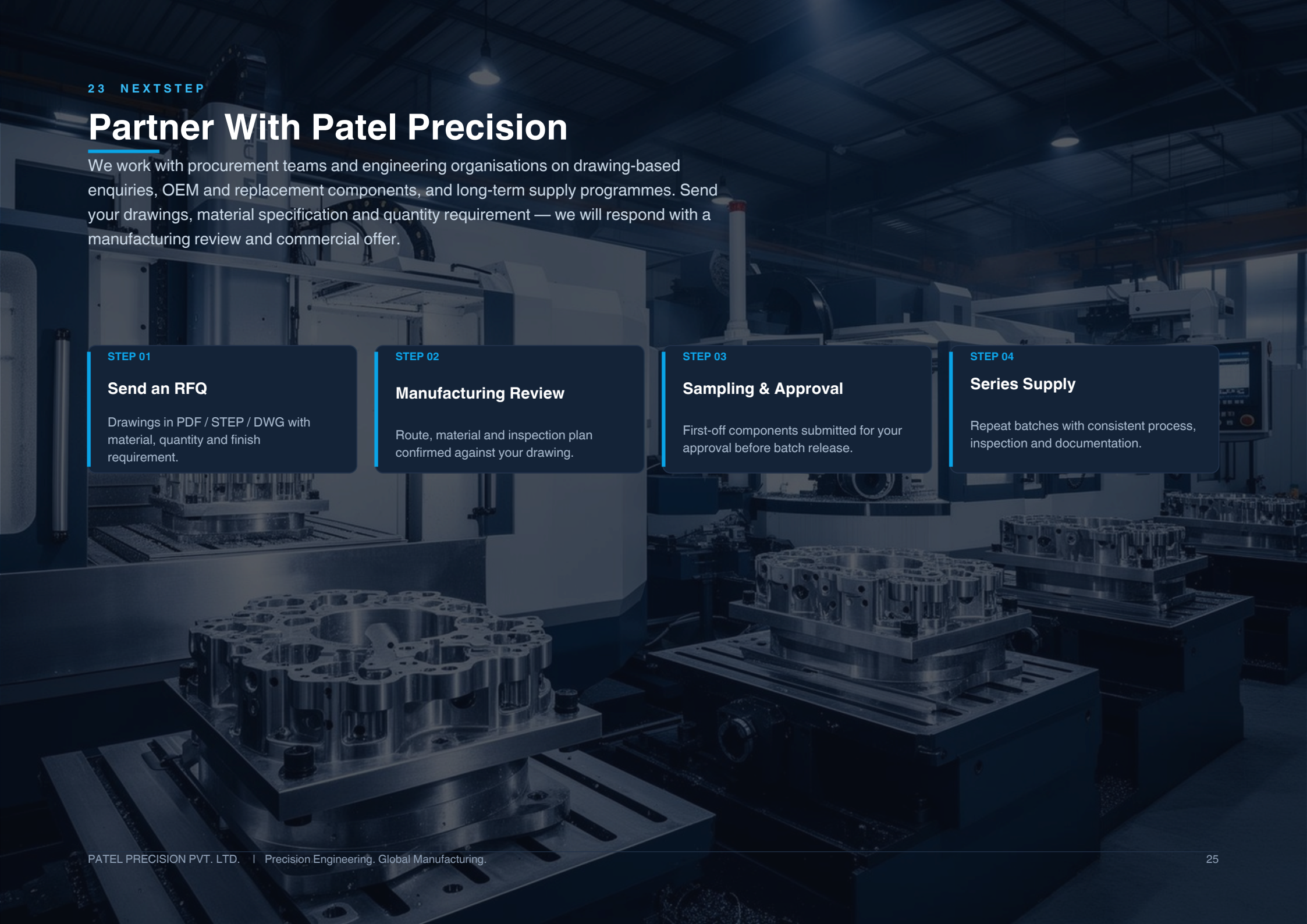


FINAL INSPECTION


FINISHED COMPONENTS

Partner With Patel Precision

We work with procurement teams and engineering organisations on drawing-based enquiries, OEM and replacement components, and long-term supply programmes. Send your drawings, material specification and quantity requirement — we will respond with a manufacturing review and commercial offer.



STEP 01

Send an RFQ

Drawings in PDF / STEP / DWG with material, quantity and finish requirement.

STEP 02

Manufacturing Review

Route, material and inspection plan confirmed against your drawing.

STEP 03

Sampling & Approval

First-off components submitted for your approval before batch release.

STEP 04

Series Supply

Repeat batches with consistent process, inspection and documentation.

Patel Precision
CNC Machining Solutions

PATEL PRECISION PVT. LTD.

PLANT & HEADOFFICE
A16/5, Harihar Corporation, Dapode,
Bhiwandi 421302, Thane / Mumbai,
Maharashtra, India

EMAIL
rakesh@patelprecision.com

PHONE
+91 98208 08852

WEBSITE
www.patelprecision.com

ESTABLISHED 2013 · ISO 9001:2015 CERTIFIED · MINISTRY OF RAILWAYS REGISTERED · NSIC ENLISTED

Export markets: USA | Canada | Europe | India | Worldwide

All components manufactured as per component drawing and customer specification.

