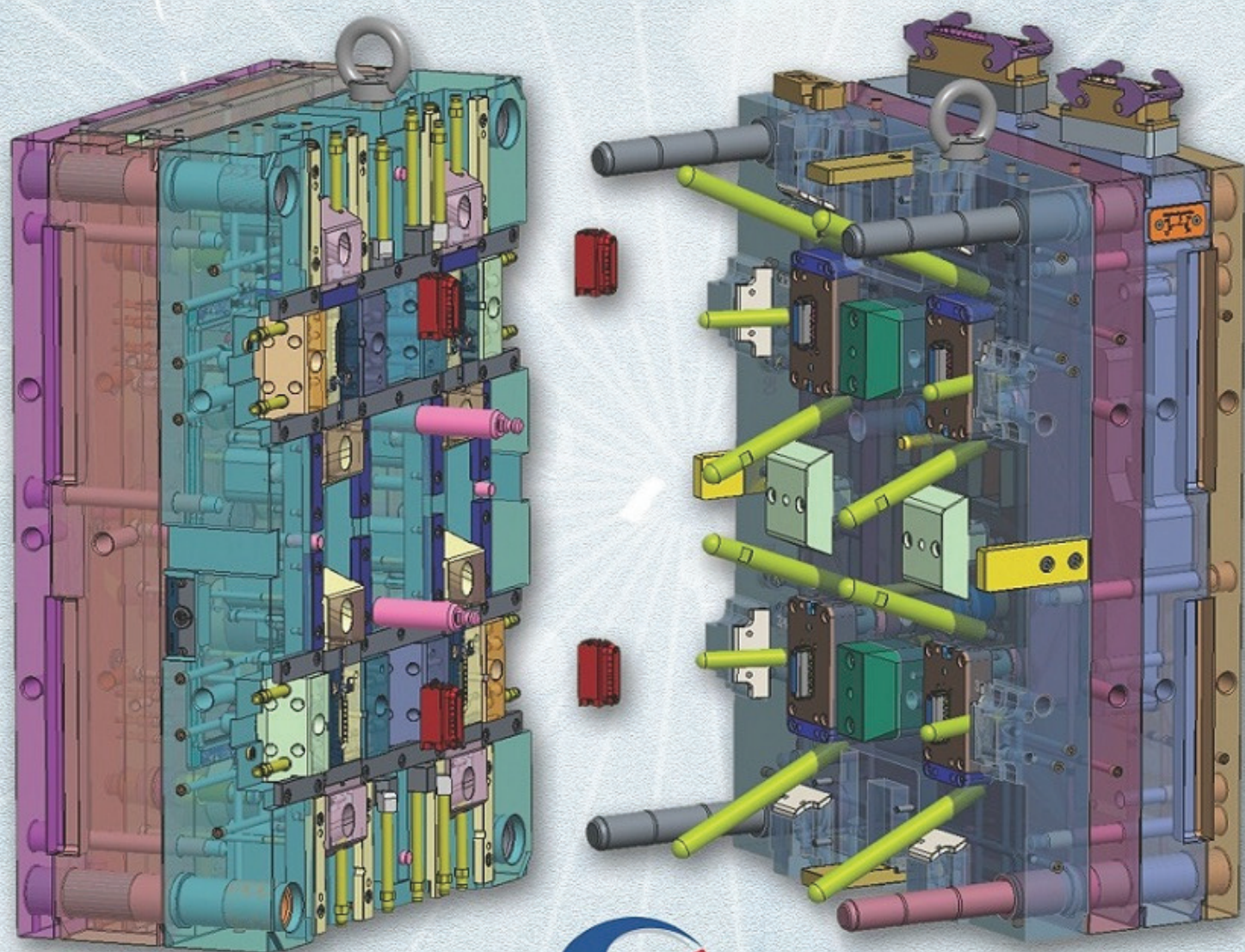


CREATING INNOVATIVE SOLUTIONS



Ray-hans

Precision Tools Private Limited

A NeST Group Company



ABOUT US

A successful venture of the \$200 million NeST group, we Ray-hans Precision Tools Pvt. Ltd offer the same competence that make our parent group with its 4000 employees stand out. Based in Cochin, India, we are specialists in manufacturing high precision moulds & dies. Long been established as a quality tooling manufacturer, we are capable of supplying precision tooling of European Standards to Electronic, Automotive, electrical and IT sectors.

WE OFFER

Equipped with the state-of-the-art facilities for tooling, we offer world class solutions for designing, manufacturing and supplying of quality moulds & dies components. Our trained and skilled engineers have a wealth of experience in designing and creating a spectrum of durable components and products. Their updated knowledge about the softwares offering technical assistance is something that we always bank upon to match up with this evolving field of cutting edge tool making technology.

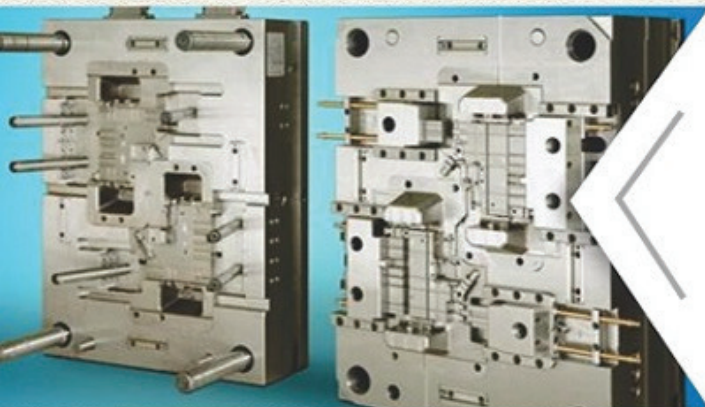
- Design of Injection Moulds
- Manufacturing of Moulds & Dies
- Spare parts for Moulds & Dies
- Production of Moulded Components



EXCELLENCE IN EACH PRODUCT

MOULD DESIGN

The most important phase in the process of mould making is the design and we have expertise in designing even the most complex and intricate moulds. Our integrated designing processes comprise concept design, flow analysis and detailed design, equipped with Creo 2 (ProE).

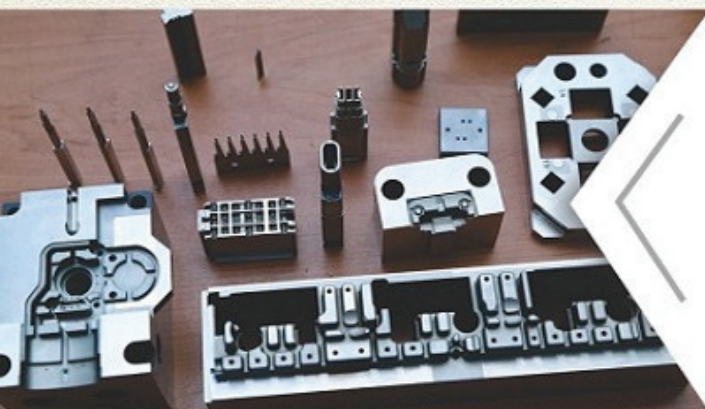


MOULDS & DIES

We had manufactured over 200 moulds for connector components. The end customers being European automotive giants, our manufacturing and assembling processes are always done systematic to bring out some high standard products.

TOOL ASSEMBLY

Assembling complex tooling requires mechanical aptitude, experience and finish machining skills. Led by a bunch of experienced tool makers, Ray-hans has highly skilled machinists and technicians who understand the art and the science of precision tool manufacturing. Their great hand skills to deal with minute and high precision moulds reflect in accuracy of Ray-hans' product.



PRECISION SPARES

Our precision manufacturing faculty ensures the best quality in terms of dimensions and surface finish. We ensure our machines parts are in 100% compliance with design.

MOULDED COMPONENTS

Our expertise and machineries enable us to supply engineering components with high standards to meet the customer expectations.

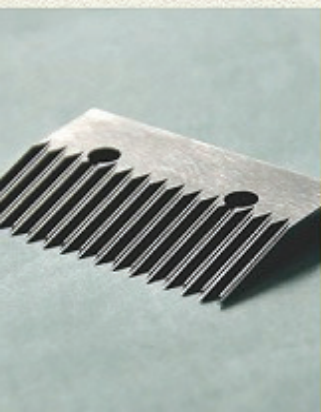


MACHINERIES & EQUIPMENTS

Our machinery, equipments and technologies are always kept updated, as that allows us the flexibility for rapidly responding to our existing and prospective customers.

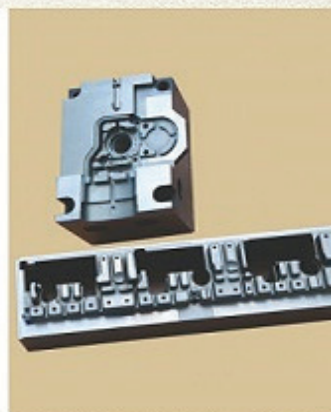
SURFACE GRINDING

Our capability in Surface Grinding is the best in class with facilities to grind profiles supported by optical dresser. We also have CNC Grinding facility and Optical Profile grinding. Also have large bed size machines to handle mould base elements.



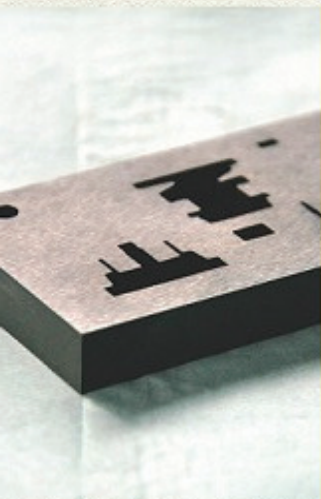
SINK EDM

We have highly competent Sink EDM machines for making complex forms. It's a System 3R based automation with robotic interchange and also supported by presetting in CMM.



WIRE EDM

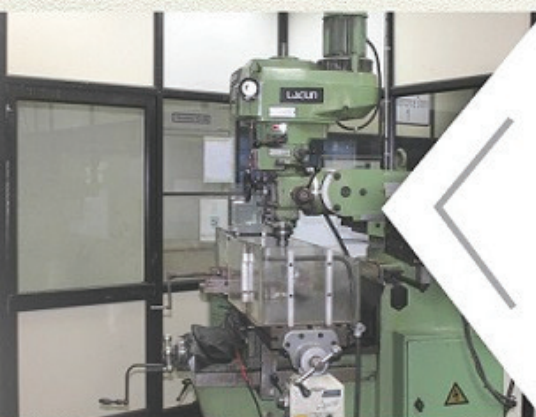
Wire EDM machines allow us to produce parts that could not be made traditionally. We can produce parts that require a fine finish, a quality edge and close tolerances. They deliver accuracy up to 3 microns. Wire diameters lesser up to 0.1 mm can be used.





CNC MILLING & JIG GRINDING

Our CNC Machining Centers enable us to complete your project requirements. We have high speed milling facility with machines offering up to 42000 RPM. We also have machines with 5 axis facility. Also have Jig grinding facility to incorporate high surface finish and accuracy.



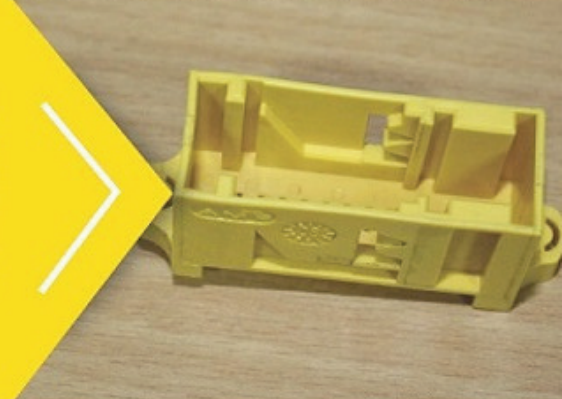
MILLING AND HEAT TREATMENT

We have best in class machines and furnaces available in this section. We have capability for sub zero treatment.



MOULDING

Moulding machines are specially equipped with interchangeable screw diameter and in-built hot runner controller, exclusively to facilitate try-outs and production of parts having complex dimensions. Systematic process set up and parametric control system also bring out the best results.



QUALITY ASSURANCE

Precision tool manufacture requires sophisticated machinery and high-end quality assurance equipment to be sure. Products come out of Ray-hans after stringent quality checks. Sophisticated measuring equipments and highly skilled employees' couple to deliver world class quality. High precision equipments like CMM, Profile Projectors, Toolmakers Microscopes, Digital Height Gauges, Surface Texture Measuring Machines etc., used in production phases too add to the accuracy.

MACHINERIES & EQUIPMENTS - SPECIFICATIONS

SURFACE GRINDING

| Machine | Make | Model | Qty | Bed Size (mm) | Accuracy |
|----------------------|--------------|--------------|-----|---------------|----------|
| Surface Grinding | JUNG | JF 415 / 420 | 5+8 | 150*350*225 | ±0.002 |
| CNC Surface Grinding | JUNG | JF 525 | 2 | 200*600*300 | ±0.002 |
| Profile Grinding | DOEBELE | UPFS150-CNC | 1 | TRV=60 | ±0.002 |
| Surface Grinding | OKAMOTO | ACC105DX | 2 | 500*1000*500 | ±0.005 |
| Surface Grinding | TECNO WASINO | SE 52N1 | 6 | 200*500*260 | ±0.010 |
| Surface Grinding | MITSUI | MSG 250 H2 | 1 | 150*300*250 | ±0.010 |
| Surface Grinding | HARIG | 612 | 2 | 150*300*250 | ±0.050 |



SINK EDM

| Machine | Make | Model | Qty | Bed Size (mm) | Accuracy |
|----------|------------|-------------------------|-----|---------------|----------|
| Sink EDM | CHARMILLES | ROBOFORM 350 / 350 QCRI | 3+3 | 250*350*250 | ±0.005 |
| Sink EDM | CHARMILLES | ROBOFORM 550 | 1 | 400*550*350 | ±0.010 |
| Sink EDM | SODICK | AQ35L LQ1 | 2 | 250*350*200 | ±0.005 |
| Sink EDM | CHARMILLES | ROBOFORM 20 / 35 | 1+1 | 250*350*250 | ±0.010 |
| Sink EDM | SODICK | A30R | 1 | 200*250*200 | ±0.015 |



WIRE EDM

| Machine | Make | Model | Qty | Bed Size (mm) | Accuracy |
|----------|------------|---------------------------|-----|---------------|----------|
| Wire EDM | CHARMILLES | ROBOFIL 2020SI | 2 | 200*300*100 | ±0.005 |
| Wire EDM | CHARMILLES | ROBOFIL 440 CC | 1 | 330*540*400 | ±0.005 |
| Wire EDM | CHARMILLES | ROBOFIL 2030SI | 1 | 200*300*100 | ±0.003 |
| Wire EDM | CHARMILLES | ROBOFIL 2010 microsurf | 1 | 200*300*100 | ±0.003 |



CNC MILLING & JIG GRINDING

| Machine | Make | Model | Qty | Bed Size (mm) | Spindle RPM | Accuracy |
|------------------------|----------------|---------------------|-----|---------------|-------------------------------------|----------|
| High Speed CNC Milling | ROEDERS | RFM 600 | 1 | 600*450*300 | 42000 rpm Max (36000rpm normal) | ±0.005 |
| High Speed CNC Milling | MIKRON | HSM 400 | 1 | 400*450*350 | 42000 rpm Max (32000rpm normal) | ±0.010 |
| CNC Milling | DMG | DMU 50 eVOLUTION | 2 | 500*420*380 | 18000 rpm Max (12000rpm normal) | ±0.010 |
| CNC Milling | DMG | DMU 80T | 1 | 880*630*630 / | 18000 rpm Max | ±0.005 |
| CNC Milling | DMG | DMU / 60T | 1 | 630*560*530 | (12000rpm normal) | ±0.005 |
| CNC Milling | DMG Ecoline | DMC 635V eco | 1 | 635*520*460 | 8000 rpm Max (6500rpm normal) | ±0.010 |
| Jig Grinding | MOORE TOOLS | 450 CP | 1 | 275*450*350 | 175000 rpm Max (25000rpm normal) | ±0.005 |



MOULDING

| Machine | Make | Model | Qty | Bed Size (mm) |
|------------------|--------|----------------------|-----|---------------|
| MOULDING MACHINE | DEMAG | IntEiect 100/420-310 | 1 | 420*420*430 |
| MOULDING MACHINE | ARBURG | 470A 800-70 | 1 | 470*470*500 |



QUALITY ASSURANCE

| Instrument | Make | Model | Qty | Measuring Range | Accuracy |
|------------------------------|-------|--------|-----|-----------------|--------------|
| COORDINATE MEASURING MACHINE | ZEISS | ACCURA | 1 | 500X700X900 MM | 2.4+L/300 µm |
| COORDINATE MEASURING MACHINE | ZEISS | VISTA | 2 | 350X400X500 MM | 2.4+L/300 µm |

| Instrument | Make | Model | Qty | Accuracy |
|--------------------------------------|-----------|----------------------------------|------------|-----------|
| PROFILE PROJECTOR | STARRETT | HB 400 / HD 400 | 8 | +/- 0.003 |
| PROFILE PROJECTOR | NIKON | R 14-A | 2 | +/- 0.003 |
| TOOL MAKERS MICROSCOPE | NIKON | MM 60/L3T, MM 40/2, MM 22, | 5 MM 11 | +/- 0.003 |
| HEIGHT GAUGE | TRIMOS | MESTRA, VT 600 MA, TVA, V 300 | 9 | +/- 0.003 |
| SURFACE TEXTURE MEASURING EQUIPEMENT | TSK-ZEISS | SURFCOM 130 A | 1 | 5% |





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Contact information

Ray-hans Precision Tools Pvt Ltd

Plot No 44, Cochin Special Economic Zone, Kakkanad, Cochin, India 682 037

Ph: +91-484 -40 80 500, e-mail: ray-hans.tools@nestgroup.net

www.tools.ray-hans.com

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