

HIRA SOLUTIONS

HIRA SOLUTIONS
COMPLETE ENGINEERING SOLUTIONS



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INTRODUCTION

Incorporated in the year 2009, **Hira Solutions** is among the leading manufacturer and supplier of **Heavy Duty Self Centring Chuck, Plasma Cutting Machine, Gantry Handling System, Multi Gauging System, Knife Grinding Linear Motion Slides, Linear XY Stages, Drilling Machine, Tapping Machine** etc. and to fulfil the varied demands of various engineering industries, we, **Hira Solutions** have established under the humble guidance of our mentor **Mr. Nana Gaikwad**. We are amongst the prestigious manufacturers and suppliers of a wide range of **Pneumatic Press, Special Purpose Machines, Indexing Tables** and many more. We have expertise in **Intelligent Motion and Precise Machining**. In addition, we also undertake several orders of our range, which are delivered as per the demands of our customers with **Effective and Fast Solution**.

As we deal in a wide range of machinery and allied products, their fabrication becomes extremely important for us. The fabrication of products at our company is done by a team of experienced professionals, who use latest manufacturing machines, ultra modern tools and others for this purpose. Depending on the size and dimensions of the products, we are engaged in offering bulk as well as single orders, according to the clients. Furthermore, to ensure the **Timely Delivery** of the ordered products with **Quality Assurance**, we have created various tie-ups with various C & F agents.

INTRODUCTION

- **OUR CLIENTS –**

- 1) WELSPUN.
- 2) GODREJ.
 - GODREJ AND BOYCE.
 - GODREJ LAWKIM.
- 3) CARTINI.
- 4) RENISHAW.
- 5) EXIDE BATTERIES.
- 6) IIT Powai.
- 7) PRO ARC.
- 8) ANVIN ENGINEERS.
- 9) TRILOGIX.



COMPANY STRENGTH

- **INFRASTRUCTURE –**

- 1) Factory area – 3000 Sq. Ft.
- 2) Assembly area and Assembly area for precise applications - 1500 Sq. Ft.
- 3) Office – 1000 Sq. Ft.

- **MANFORCE –**

- 1) Sales – 2.
- 2) Design – 4.
- 3) Manufacturing – 7
- 4) Installation – 4.
- 5) Accounts and finance – 2.

- **OUR BANKING PARTNERS –**

- 1) HDFC Bank.
- 2) AXIS Bank.



WELSPUN (USA) CNC PLASMA CUTTING AUTOMATION.

A. HEADSTOCK ASSEMBLY-

1) 3-JAW HYDRAULIC POWERED SELF CENTERING CHUCK.-

Clamping Dia. Range – 600 mm to 1500 mm.

Pipe Length – 1500 to 2000 mm.

Drive Capacity – 2 to 3 Metric Tonne.

Rotary Axis – 360 degree movement during operation

2) Z-AXIS SLIDE.-

STROKE – 1000 mm.

Chuck centre height adjustment according to pipe diameter variations.



WELSPUN (USA) CNC PLASMA CUTTING AUTOMATION.

3) X OVER Y AXIS IDLER ROLLER LHS & RHS SLIDE.-

X axis supports overhang side of pipe using Y axis LHS and RHS idler roller movement according to pipe diameter and length variations.

B.MANIPULATOR. –

1) X AXIS TRACK –

12 metres long rack and pinion driven track for movement of column contains z axis slide with 1500 mm stroke. on the carriage plate of column, z axis plasma power source and X and Z axis slide are mounted. X and Z ball screw driven slide used for plasma cutting torch movement for profile cutting



WELSPUN (USA) CNC PLASMA CUTTING AUTOMATION.

2) Z AXIS SLIDE - 1.5 meter stroke slide maintains height of plasma source with respect pipe dia. Variations. This slide carries 2 slides
Y AXIS SLIDE – 2000 mm STROKE travels along with pipe length during plasma profile cutting operation

Z AXIS SLIDE – 300 mm stroke slide. It is used for mounting plasma torch and maintain cutting distance between pipe and torch.

C. TAB COLLECTION TROLLEY

It is used for collection of profile cutting tabs. After loading the pipe on the chuck trolley is inserted in a pipe. The whole assembly is driven rack and pinion for forward/backward movement.

Trolley shakes with the help of pneumatic cylinder arrangement this helps to collect the tabs in collection tank.



PICK AND PLACE GANTRY FOR BOMBSHELL HANDLING FOR DEFENCE.

COMPLETE BOMBSHELL HANDLING DURING GAUGING PROCESS.

Machine Components-

- 1) Zero gravity balancer for loading.
- 2) Loading turn table.
- 3) X axis gantry with Z axis.
- 4) Unloading turn table.
- 5) Zero gravity balancer for unloading.

ZERO GRAVITY BALANCER –

Loading of a bombshell from ground level to loading turn table without creating any fatigue to the operator.



PICK AND PLACE GANTRY FOR BOMBSHELL HANDLING FOR DEFENCE.

LOADING TURN TABLE

10 bombshell are mounted on turn table.

And indexed automatically for picking up bomb shell by x and z axis slide.

X AXIS GANTRY WITH Z AXIS

Pneumatic operated clamping gripper picks bomb shell with the help x and z axis and travels to weighing station. After weighing it again picks the bomb shell and place it for gauging process. After the completion of gauging of bomb shell gantry picks up the bombshell and place it at unloading turntable.



PICK AND PLACE GANTRY FOR BOMBSHELL HANDLING FOR DEFENCE.

X axis slide –

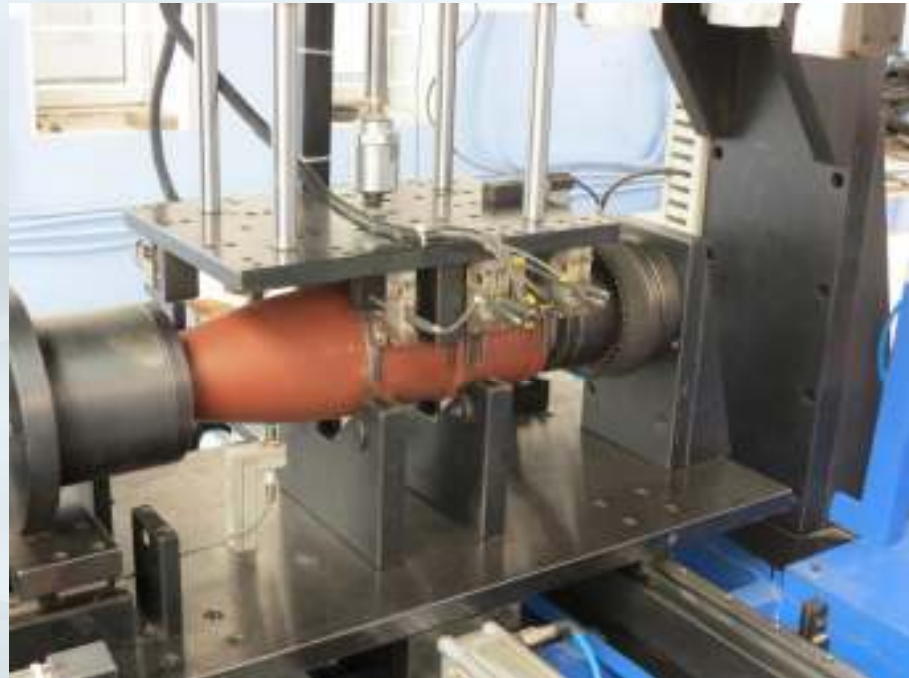
Stroke –

Drive – Rack and Pinion.

Y axis slide -

Stroke –

Drive – Pneumatic operated.



L & T RING ROTATION ARRANGEMENT

- 1) 3-JAW HYDRAULIC POWERED SELF CENTERING CHUCK.

Clamping dia. – 750 mm.

Holding Capacity – 12 Metric Tonne.

Drive Capacity – 10 Metric Tonne.



GODREJ LAWKIM PRECISION ROTOR GAUGING.

CHECK PARAMETERS –

- 1) Inner dia. at H1 –
Measures the inner dia. At height 1.
- 2) Inner dia. at H2 –
Measures the outer dia. At height 2
- 3) Outer dia. At H1 –
measures outer dia. At height 1
- 4) Outer dia. At H2 –
measures outer dia. At height 2.
- 5) Concentricity at H1 –
measures concentricity at height 1
- 6) Concentricity at H2 –
measures concentricity at height 2
- 7) ID H1 Ovality –
measures the ovality at H1.
- 8) ID H2 ovality –
measures the ovality at H2.



GODREJ LAWKIM PRECISION ROTOR GAUGING.

- 9) OD H1 ovality -
measure outer diameter ovality at height 1.
- 10) OD H2 ovality –
measures outer diameter ovality at height 2.
- 11) ID taper –
Measures inner diameter taper of rotor.
- 12) OD taper –
Measures outer diameter taper of rotor.



GODREJ LAWKIM PRECISION ROTOR GAUGING.

Hira Solution: Measurement of component - SPE 45CC

Component Sr. No.: 511 Read cnt. = 181 Shift: 2

Current Sr No: Shift cnt. = 49 Accept cnt. = 129 Reject cnt. = 382

Comp. Name: SPE 45CC
 Drg. No.: 3
 Model: SPE 45CC

Mastering: Done

Operator: Sa

Next Step (F11)

Accept

No.	Characteristic	Read.(MM)	Indicator	Status	USL(MM)	LSL(MM)	Max
1	Inner Dia at H1	19.017	6.000	Accept	19.029	19.017	19.0
2	Inner Dia at H2	19.014	6.000	Rework	19.029	19.017	19.0
3	Outer Dia at H1	60.344	15.000	Accept	60.350	60.320	60.3
4	Outer Dia at H2	60.342	15.000	Accept	60.350	60.320	60.3
5	Concentricity at H1	0.000	0.000	Accept	0.050	0.000	0.00
6	Concentricity at H2	0.001	0.000	Accept	0.050	0.000	0.00
7	ID H1 Ovality	0.000	0.000	Accept	0.008	0.000	0.00
8	ID H2 Ovality	0.000	0.000	Accept	0.008	0.000	0.00
9	OD H1 Ovality	0.000	0.000	Accept	0.010	0.000	0.00
10	OD H2 Ovality	0.000	0.000	Accept	0.010	0.000	0.00
11	ID Taper	0.003	0.000	Accept	0.008	0.000	0.00
12	OD Taper	0.002	0.000	Accept	0.010	0.000	0.00

Saved successfully. Load next component and press F3

Your device is ready to use. Device driver software installed successfully.

D:\Mubgauging Software For Rotor\db\Gauge06.mdb Sa [Shift:1] 30/04/2014 7:26 PM

RENISHAW ROBOT INTERFACING

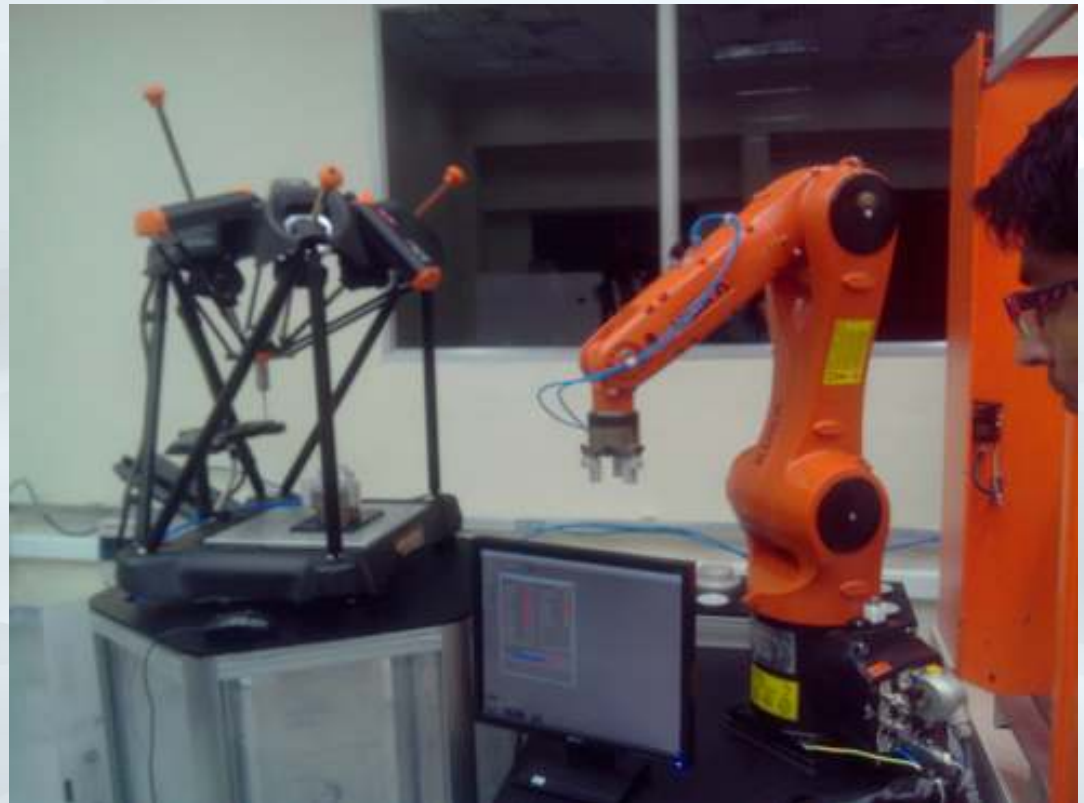
COMPLETE ROBOTIC CELL WITH PICK AND PLACE BY KUKA ARTICULATED ROBOT AND GAUGING BY EQUATOR DELTA TYPE ROBOT.

KUKA articulated robot –

Robot places the job and picks up the finished job and place it in equator delta robot.

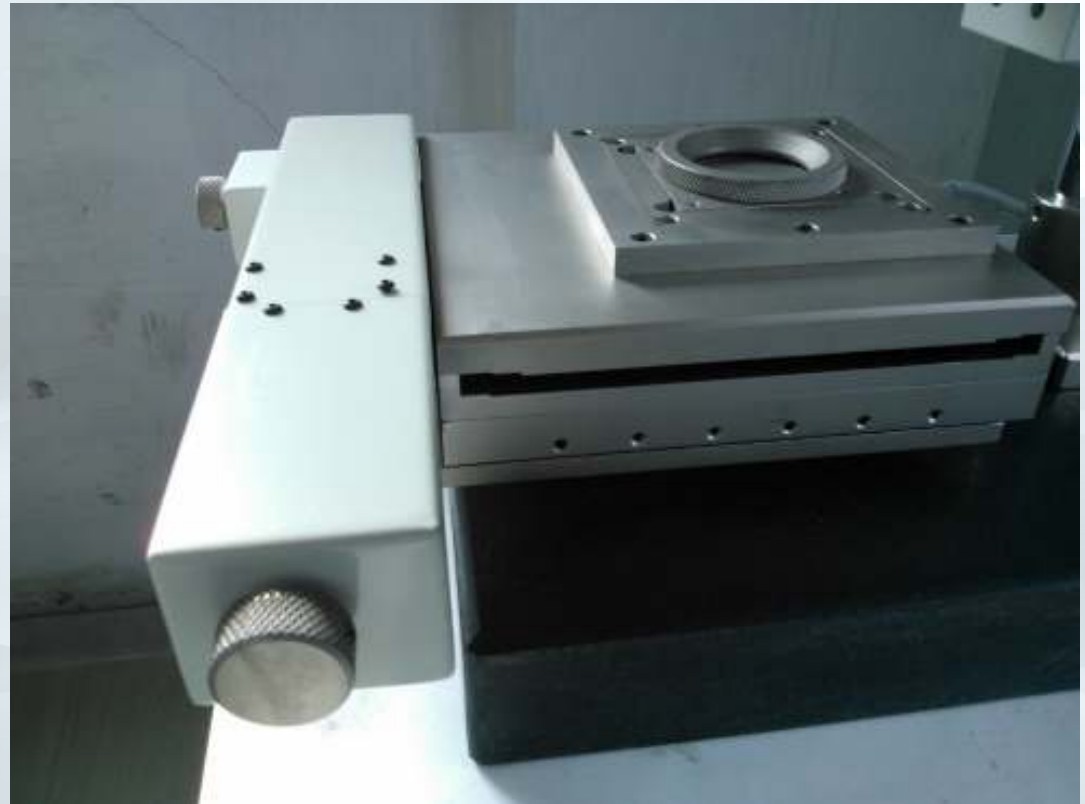
EQUATOR robot –

Robot inspects job by gauging and gives a report of ACCEPTANCE OR REJECTION of job.



X-Y AXIS MICROSCOPE SLIDE.

- 1) Stroke Length –
For X axis - 75 mm.
For Y axis - 75 mm.
- 2) Travel per revolution – 4 mm.
- 3) Slides are specially designed for microscope.
Using light weight aluminium.
- 4) Stepper motor driven automatic X-Y axis movement.
- 5) Application – Metallurgical Analysis on the microscope.



X-Y AXIS MICROSCOPE SLIDE.

6) ACCURACY PARAMETERS –

Position Accuracy – 5 microns.

Parallelism – 5 microns.

Squareness – 5 microns.



X-Y-Z MICROSCOPE SLIDE.

1) Stroke length –

For X – 95 mm.

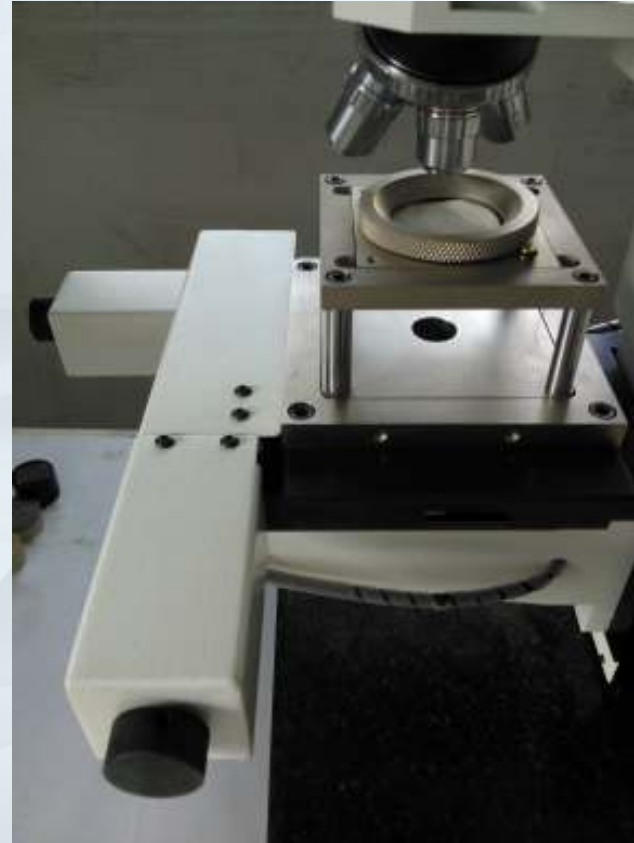
For Y - 95 mm.

For Z - 35 mm.

2) Slides are specially designed for customize microscope.

3) All slides are stepper motor driven.

Also can be manually operated during power off.



X-Y-Z MICROSCOPE SLIDE.

- 4)Accuracy Parameters –
 - Position Accuracy – 5 microns.
 - Parallelism – 5 microns.
 - Squareness – 5 microns.

