



# ENGINEERING EXCELLENCE IN AEROSPACE & DEFENCE

















At LMI India, we take pride in our technical and engineering proficiency in researching and developing components and sub-components for the aerospace and defence sectors. Our highly skilled professionals possess extensive expertise in specialized areas laser controlled precise and micro-machining, leveraging our cutting-edge facilities and advanced technologies, we excel at automating and scaling production for our clients. This ensures the delivery of high-quality components and sub-components that precisely align with their specifications. Whether you require support with prototyping, design, development, or production, our knowledge and domain expertise will enable you to realize your objectives and successfully introduce innovative solutions to the aerospace and defence market.

We have gauges, fixtures, and tools to make defence components with smooth finishing and precision. We work with a diverse range of materials such as stainless steel, brass, alloys and engineering plastics like PTFE, PEEK, acetal, and nylon. All sharp edges are deburred and materials are re-worked where ever possible to reduce the waste and environmental impact.

For us quality isn't a department, it's a culture. From drawings to final dispatch, every part passes through strict controls, dedicated inspection areas, constant verification, and tolerances meet the highest expectations. That's how we consistently maintain quality and on-time delivery for all defence contracts. We manage a wide range of advanced finishing and post-machining processes such as heat treatment, laser welding, lapping, deburring, non-destrutive testing, electro polishing.

We are equipped with clean and climate control inspection room. We have experience with military grade materials, small batch and prototype production. Tight tolerance cnc machining for complex geometry is our forte. Whether it is deep sea or high altitude, desert or arctic weather condition requirements we are capable of handling those special grade components from design to manufacturing.



LMI India, an ISO 9001:2015 TÜV Nord Certified Company, is a reputed Indian manufacturing company headquartered in New Delhi. With a focussed commitment to excellence and precision engineering, LMI specializes in producing high-precision and special-purpose components for the defence and allied sectors.

Manufacturing Infrastructure LMI operates state-ofthe-art manufacturing facilities at:

- IMT, Bawal, Haryana
- Bharthal, Dwarka, New Delhi

Both facilities are designed and built to meet stringent industrial safety and quality standards, featuring:

- Certified firefighting and exhaust systems
- \*\* Natural ventilation and ergonomic layout
- In-house packing and logistics setup
- CNC machines, precision drilling equipment, and advanced tooling
- Sheet metal fabrication: cutting, bending, shaping of various alloys and ferrous metals
- Facility for building electrical control panel cabinets and enclosures in stainless steel, including IP65-grade heavy-duty enclosures

Human Capital LMI prides itself on a team of young

and skilled professionals, including diploma and degree holders in mechanical and metallurgical engineering. Our team ensures high productivity, quality, and innovation across all levels of production and product development.

- Compliance & Certifications ISO 9000 certified by TÜV
- Registered under MSME
- Employees covered under PF/EPF, gratuity, workmen compensation, and comprehensive insurance

Clientele & Credentials Approved vendor/supplier to premier Indian institutions such as:

- BARC (Bhabha Atomic Research Centre)
- BHEL (Bharat Heavy Electricals Limited)
- \* Ordnance Factory Group
- Proven track record in import substitution and indigenous development of critical components

Growth & Development LMI India has demonstrated consistent year-on-year organic growth in:

- **Annual turnover**
- **Employment generation**
- Manpower training and upskilling
- Design and development of new products and prototypes
- Supporting the Make in India mission through defence-grade indigenous manufacturing





## **Laser Marking & Coding**

## LMArk® - the permanent mark

LmArk - Laser Marking Machine employing various laser technologies to mark fixed/variable data on various products & substrates.

LmArk offers permanent marking of alphanumerical characters, logos and 1/2 D Bar Codes either in static or in dynamic application.

Both metal and non metal Laser Marking applications are possible owing to selection from wide range of Laser sources such CO<sub>2</sub>, UV, Green Light, Fibre Laser and wattages depending upon application & substrate.

#### **TechnicalSpecifications**

#### **Capabilities**

• Stable Light Source • High Quality Spot

Uniform Laser Density

• Uniform Laser Output • Compact Size

- Stable Operation
- Easy Setup Simplified Operation

#### **Unique Features**

- High Speed Marking
- Air Cooling
- Sturdy & Durable
- Line Speed Application Dependent
- 100,000 Burning Hours/ Fibre Laser Source
- 50,000 Burning Hours/CO, Laser Source
- 30,000 Burning Hours/ UV laser Source
- 🕳 High Uptime 🥃 Hi Resolution Marking
- Supports Various Code < 100% Scanning of QR/2D/1D Codes</p>
- No Consumables Fast Payback
- (S)\*tatic Marking & (D)\*\*ynamic Marking

| reclinicalspecifications | (-,   |
|--------------------------|---|
| Model                    | LmArk® F30/50/60/100 D/S  |
| Application Type         | Online Marking on both non/metals   |
| Technology               | Optical Fibre   |
| Laser Source             | Pulsed Fibre Laser  |
| Laser Power              | 30W/50W/60W/100W  |
| Features                 | <ul> <li>Stable Light Source</li> <li>High Quality Spot</li> <li>Uniform Laser Density</li> <li>Uniform Laser Output</li> <li>High Speed</li> <li>Compact Size</li> <li>Stable Operation</li> <li>Data Optimisation</li> <li>Easy Set up</li> <li>Simplified Operation</li> </ul> |
| Laser Head               | Digital Galvanometer Technology   |
| Laser Beam Deflection    | Galvanometer Scan   |

#### **Applications**













## **Laser Marking & Coding**

## Lm∧rk® - the permanent mark

| Model                            | LmArk® F30/50/60/100 D/S   |
|----------------------------------|--|
| Laser Source Lifespan/Burning Hr | >100,000 Burning Hours   |
| Laser Beam Expander Wavelength   | 1064mm   |
| Optical Quality                  | <1.4M2   |
| Repeat Frequency                 | ≤ 20 - 60 kHz  |
| Marking Speed                    | ≤14000 mm/s  |
| Marking Filed Area               | 100 x 100 mm / 175x175 mm/200x200 mm   |
| Min. Character Height            | 0.7 mm   |
| Min. Line Width                  | 0.15 mm - 0.2 mm   |
| Marking Depth                    | ≤0.01 mm & above   |
| Repeat Precision                 | 0.01 mm  |
| Power Supply                     | ≤220V+/- 10%   |
| Power Consumption                | 1KW  |
| Cooling Mode                     | Air Cooled   |
| Capable of Marking               | Number, Text, Bar Code, QR Code, Time, Serial No., Length  |
| Supported Formats                | BMP,PLT,AI,DXF ETC   |
| Bar Code                         | Yes  |
| HMI                              | 10" Touch Screen   |
| Communication Port               | USB/ Serial/Ethernet/PS  |
| Class of Safety Protection       | IP 54 / IP65   |
| Laser Safety Level               | 4  |
| Work Environment                 | Temperature: 0 - 45°C<br>Humidity: 5% - 95% non condensing water   |
| Supporting Accessories           | Product Sensor Foot Switch   |
| Mounting Arrangement             | Adjustable Mounting Stand for - Vertical Adjustment 0- 450 mm (Graduated Scale) - Back/Forth Adjustment 0-250mm (Graduated Scale) - Mounting Orientation options 0°,45°,90°,180° |
| Control System                   | 17" Touch Screen Control System with Graphical Under Interface RAM :8GB ,Storage :500 GB   |
| Main Frame Design                | Aluminium Housing of<br>Control Box<br>Laser/Optics  |
| Tools                            | A Set of tools included in the scope of supply   |
| Language Support                 | English  |
| System Upgrade                   | Free Upgrade of Software as & when released  |
| Application                      | Dynamic for online applications  |
| Dimensions                       | 450 mm x 450 x 1300mm  |
| Weight                           | 80Kg   |
| 11015110                         | OUNS   |

## **FMC 650**<sup>®</sup>



## **Stacker Feeder Conveyor**

Auto Dispensing of Mono Cartons, Pouches, Bags......

LMI offers customised conveyors - both belt & roller in different configurations such as fixed or of variable speed depending upon the applications / customer specification incorporating marking information.

#### **Technical Specifications**

| Model              | FMC650-312   | FMC-650-922   |
|--------------------|--------------|---------------|
| Product Range      | 80mm ~ 300mm | 225mm ~ 550mm |
| Min. Product Width | 80           | 225           |
| Max. Product Width | 300          | 550           |
| Feed Rate          | 73 m/min     | 73 m/min      |
| Product / min      | 180*         | 180*          |
| Conveyor Speed     | 83 m/min     | 83 m/min      |
| No. of Lines       | Χ            | Χ             |
| GSM                | 0.15 to 4 mm | 0.15 to 4 mm  |
| Printing Area      | Χ            | Χ             |



<sup>\*\*</sup> Conveyor Length 2 meter (standard); customised as per Application





## **FMC 650**<sup>®</sup> CJ/TI/TT

| Model          | Product<br>Range | Min. Product<br>Width | Max. Product<br>Width | Feed<br>Rate | Product<br>/min | Conveyor<br>Speed | Number<br>of Lines      | GSM<br>of Product | Printing Area<br>(WXL)     |
|----------------|------------------|-----------------------|-----------------------|--------------|-----------------|-------------------|-------------------------|-------------------|----------------------------|
| FMC650-312CJ   | 80mm ~ 300mm     | 80                    | 300                   | 73 m/min     | 180°            | 83 m/min          | Multiple (Upto 5 Lines) | 0.15 to 4 mm      | 8x550/12x550/16x550mm      |
| FMC650-922CJ   | 225mm ~ 550mm    | 225                   | 550                   | 73 m/min     | 180°            | 83 m/min          | Multiple (Upto 5 Lines) | 0.15 to 4 mm      | 8x550/12x550/16x550mm      |
| FMC650-312TI   | 80mm ~ 300mm     | 80                    | 300                   | 73 m/min     | 180*            | 83 m/min          | Multiple                | 0.15 to 4 mm      | 12.5 x 250mm               |
| FMC650-922TI   | 225mm ~ 550mm    | 225                   | 550                   | 73 m/min     | 180*            | 83 m/min          | Multiple                | 0.15 to 4 mm      | 12.5 x 250mm               |
| FMC-650-922TT* | ** 80mm ~ 300mm  | 80                    | 300                   | 18 m/min     | 70*             | 22 m/min          | Multiple                | App. Specific     | 32X125 /53X125 /107X125 mm |
| FMC-650-922TT* | ** 225mm ~ 550mm | 225                   | 550                   | 18 m/min     | 70*             | 22 m/min          | Multiple                | App. Specific     | 32X125 /53X125 /107X125 mm |





## **Traverse & Winding**

#### **RS NUT**



| Features                |                                    |
|-------------------------|------------------------------------|
| l Backlash-free         | Low maintenance                    |
| Resistant to vibrations | Free-movement lever                |
| Compact design          | Good sealing possibilities         |
| Overload protection     | Linked nuts for higher side thrust |
| High-efficiency         | Left-and right-hand pitch on the   |
| Quiet in operation      | same shaft                         |

#### **RS NUT Types**

| Model               | RS 3-10-4 | RS 4-10-4 | RS 4-15-4  | RS 4-20-4 | RS 4-25-4 | RS 4-35-4 | RS 4-50-3 | RS 4-60-3 |
|---------------------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| Shaft Diameter (mm) | 10        | 10        | 15         | 20        | 25        | 35        | 50        | 60        |
| Weight (kg)         | 0.14      | 0.18      | 0.23       | 0.55      | 0.10      | 1.55      | 2.70      | 4.20      |
| Maximum Trust (N)   | 100       | 200       | 260        | 420       | 600       | 900       | 1300      | 2000      |
| Torque (Ncm)        | 1.8       | 3.0       | 5.0        | 10.0      | 20.0      | 45.0      | 140.0     | 200.0     |
| Pitch (mm)          | 5.0       | 5.0       | <i>7.5</i> | 10.0      | 12.5      | 17.5      | 25.0      | 30.0      |

#### Fast Clamping Mechanism





UC10-UC16

UC20-UC22



#### U Clip

| Model              | UC8      | UC10     | UC12     | UC15     | UC16     | UC20     | UC22     | UC25     | UC30     | UC35    |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|
| Hole Diameter (mm) | 8        | 10       | 12       | 15       | 16       | 20       | 22       | 25       | 30       | 35      |
| Tension (N)        | 200      | 250      | 350      | 350      | 380      | 320      | 320      | 420      | 420      | 420     |
| O-Ring             | 22 X 1.5 | 27 X 1.5 | 27 X 1.5 | 46 X 2.0 | 46 X 2.0 | 46 X 20 |

#### Easy lock – EL-III/II

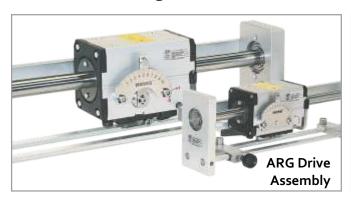
| Model             | EL-III-10 | EL-III-12 | EL-III-15 | EL-III-16 | EL-III-20 | EL-III-22 | EL-III-25 | EL-III-30 | EL-II-35 | EL-II-40 |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|
| Hole Diameter(mm) | 10        | 12        | 15        | 16        | 20        | 22        | 25        | 30        | 35       | 40       |
| Tension(N)        | 400       | 500       | 700       | 800       | 1000      | 1000      | 1800      | 2800      | 4000     | 5000     |
| Weight(kg)        | 0.23      | 0.21      | 0.23      | 0.26      | 0.25      | 0.24      | 0.72      | 0.76      | 2.16     | 1.60     |





## **Traverse & Winding**

### **Traverse Roll Ring Drives**





| Model /No of Bearings 3  | RG 3 15 2MCRF | RG 3 20 2MCRF | RG 3 30 2MCRF | RG 3 40 2MCRF | RG 3 50 0 | RG 3 60 0 | RG 3 80 0 |
|--------------------------|---------------|---------------|---------------|---------------|-----------|-----------|-----------|
| Shaft Diameter           | 15            | 20            | 30            | 40            | 50        | 60        | 80        |
| Max. Side Thrust FGR (N) | 110           | 160           | 260/400       | 420           | 700       | 1,000     | 1,800     |
| Max Pitch h (mm)         | 11.4          | 15.9          | 26            | 33            | 41        | 49        | 76        |

| Model /No of Bearings 4  | RG 4 15 2MCRF | RG 4 20 2MCRF | RG 4 30 2MCRF | RG 4 40 2MCRF | RG 4 50 0 | RG 4 60 0 | RG 4 80 0 |
|--------------------------|---------------|---------------|---------------|---------------|-----------|-----------|-----------|
| Shaft Diameter           | 15            | 20            | 30            | 40            | 50        | 60        | 80        |
| Max. Side Thrust FGR (N) | 220           | 320           | 520           | 840           | 1,400     | 2,000     | 3,600     |
| Max Pitch h (mm)         | 11.4          | 15.7          | 26            | 33            | 41        | 49        | 76        |

| Featu | ıres                        |    |                                       |
|-------|-----------------------------|----|---------------------------------------|
| D     | Two-way shaft rotation      | R  | Rolls on rear of unit                 |
| E     | Electro-magnetic            | R1 | Rolls fitted to separate top mounting |
| Н     | Control level, double-sided | F  | Mechanical                            |
| K     | Control level, single-sided | Р  | Pneumatic                             |
| M     | Instantaneous reversal      | В  | Self-adjusting end stops              |
| N     | Pneumatic                   | W  | Lead screw operated end stops         |
| V     | Reversal slowdown           | 0  | Stopping                              |
| С     | Scale                       | 01 | Pneumatic restart                     |
| S     | Set screw                   | 02 | Electro-magnetic restart              |
| Z     | Worm drive                  | LZ | Roller style load carrier             |

### **Timing Belt Drives**



#### **AZ Series**

| Model             | AZ 1010 | AZ 2000 | AZ 2001 | AZ 2004 | AZ 2005 |
|-------------------|---------|---------|---------|---------|---------|
| Load Capacity(kg) | 1-10    | 1-9     | 1-50    | 1-60    | 1-60    |
| Ideal Torque(Nm)  | 0.1     | 0.35    | 0.35    | 0.7     | 0.9     |
| Timing Belt Type  | 009MR3  | 015MR3  | 015MR3  | 025MR5  | 030MR8  |
| Width(mm)         | 9.0     | 15.0    | 15.0    | 25.0    | 30.0    |

## **Your One Stop Source for Specialised Components & Spares**





An ISO 9001:2015 TUV Nord Certified Company

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#### **WORKS**

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