

# Light Gauge Steel Framing Machine — Rollex-2020 (C89/91)

**Commercial Proposal — Metal-Asia Industrial Solutions** Global Procurement & Supply Chain  
 Compliance | B2B / B2C | EMEA · APAC · Americas

## Executive Summary

The Rollex-2020 is a next-generation roll-forming platform purpose-built for high-throughput production of cold-formed steel framing profiles in widths of **89 mm and 91 mm**. Compared to the baseline C89 architecture, the Rollex-2020 achieves a **30% increase in forming speed** while maintaining dimensional tolerances of ±0.5 mm on punching and ±0.75 mm on roll-forming.

This dual-profile capability allows fabricators to service multiple architectural specifications — 89 mm (North American / Australasian standard) and 91 mm (European / Asian standard) — **without roll-tool changeover**, maximising machine utilisation and minimising setup downtime.

Metal-Asia Industrial Solutions delivers **direct factory procurement** with full **supply chain transparency**, vendor qualification, and **turnkey installation & commissioning** anywhere in the world.

For volume fabricators producing 500+ m<sup>2</sup> of framed floor area per month, the Rollex-2020 delivers demonstrably faster payback than any comparable single-width line.

Learn more about our [production line integration services](#) or request a tailored quotation via [our procurement portal](#).

## Application Scope

Parameter	Specification
<b>Construction Type</b>	Light-gauge steel framing, panelised construction, modular buildings
<b>Building Height</b>	2–3 storeys (residential & light commercial)
<b>Output Profile</b>	C89 / C91 studs, tracks, floor joists, roof trusses

## Technical Specifications

### Machine Dimensions & Weight

Parameter	Specification
<b>Model</b>	C89/91
<b>Overall Dimensions (L x W x H)</b>	4,100 x 920 x 1,440 mm
<b>Estimated Machine Weight</b>	~2.8 t

Parameter	Specification
<b>Power Supply</b>	380 V / 50 Hz / 3-Phase

### Electrical Parameters

Parameter	Specification
<b>Main Servo Motor</b>	7.5 kW
<b>Hydraulic Motor</b>	7.5 kW
<b>Total Installed Power</b>	15 kW

### Forming Parameters

Parameter	Specification
<b>Forming Stages</b>	9 stands
<b>Line Speed</b>	700 m/h (+30% vs. baseline C89)
<b>Shift Output Capacity</b>	4–5 t per 8-hour shift

### Profile Geometry

Parameter	Specification
<b>Effective Profile Width</b>	89 mm, 91 mm
<b>Coil Width (Feed Stock)</b>	174 mm
<b>Flange Height</b>	38 mm
<b>Lip Radius</b>	9 mm
<b>Material Thickness Range</b>	0.6 – 1.2 mm

### Dimensional Accuracy

Parameter	Specification
<b>Punching &amp; Cutting Tolerance</b>	±0.5 mm
<b>Roll-Forming Tolerance</b>	±0.75 mm

## LGS Components Produced

This line manufactures the following structural cold-formed steel elements:

- **Vertical Studs** (C89 / C89 load-bearing studs)
- **Horizontal Tracks** (C89 / C89 top/bottom plates)
- **Floor Joists** (C89 / C89 joists for intermediate floors)

- **Roof Trusses** (C89 / C89 truss chords and webs)
- **Node Plates** (pre-punched connection plates)

---

## Control System & Software

Component	Specification
<b>Control Architecture</b>	Industrial PC (IPC) with real-time CNC kernel
<b>Design Software</b>	Vertex Design — lifetime licence, no recurring fees
<b>CNC Functionality</b>	Full computer numerical control
<b>Punch Position Control</b>	Closed-loop servo positioning
<b>Cut-to-Length Control</b>	Servo-driven flying cutoff
<b>Batch Quantity Control</b>	Automated piece counting
<b>Real-Time Monitoring</b>	Live production dashboard
<b>Remote Access</b>	Secure VPN diagnostics
<b>Remote Maintenance</b>	Over-the-air software updates & support

---

## Standard Scope of Supply

Item	Description	Qty
1	Main roll-forming machine	1 set
2	3-tonne powered decoiler	1 set
3	Servo drive system	1 set
4	Industrial PC controller (Lenovo)	1 unit
5	Production management software	1 licence
6	Vertex Design software (lifetime)	1 licence
7	Hydraulic automatic punching station	1 set
8	Hydraulic post-cutoff station	1 set
9	Automatic ink-jet marking system	1 set
10	Product receiving table (4 m)	1 unit
11	Operator manuals & documentation	1 set

---

## Punching Capabilities

The hydraulic automatic punching station performs the following operations:

- Web notching (service penetrations)
- Swage / dimple embossing
- Service hole punching
- Flange chamfering (lip notching)
- Crimping / dimple creation
- Bolt hole punching (M12 / M16 clearance)

## Key Technology Features

### 1. Increased Throughput

A 30% forming-speed improvement over the baseline C89 is achieved through optimised kinematic chain geometry and an upgraded servo-drive control algorithm. The result: higher daily output without increased energy or labour cost per linear metre.

### 2. Dual-Profile Capability — Zero Changeover

The Rollex-2020 produces both 89 mm and 91 mm profiles from the same roll tooling. Profile selection is executed in Vertex Design in under 2 minutes — **no physical tooling change required**. This maximises OEE (Overall Equipment Effectiveness) for job-shop environments.

### 3. Post-Cutoff & Post-Punch Technology

Post-punch and post-cut architecture delivers superior length accuracy and hole positioning compared to pre-punch configurations. This eliminates material stretch-induced dimensional drift.

### 4. Seamless End-Connection Geometry

Patented LGS FORMER geometry ensures the vertical stud web flows continuously into top and bottom track webs, creating a direct load-transfer path from floor to floor — a critical safety advantage over conventional framing.

### 5. Continuous Slotting Without Burr Extrusion

The post-punch system enables continuous web slotting in material as thin as 0.55 mm without burr extrusion, preventing jamming during roll-forming and maintaining coating integrity.

### 6. Material Optimisation

Metric	Value
Coil Start Waste	0.02 m
End-of-Run Waste	1.0 m
Strip Width	170–174 mm (10 mm narrower than competing designs)

### 7. Material Savings — 200 m<sup>2</sup> Building Example

<b>Material Thickness</b>	<b>Steel Saved vs. Conventional</b>
0.8 mm	439.6 kg
1.0 mm	549.5 kg
1.2 mm	659.4 kg

## Tooling & Wear-Part Materials

<b>Component</b>	<b>Material</b>	<b>Heat Treatment / Coating</b>
Forming Rolls	SKD-11	Vacuum Hardened + Hard Chrome Plating
Roll Shafts	SKD-11	Precision ground
Punch Tooling	SKD-11	Hardened to 58–62 HRC
Cutoff Blades	SKD-11	Hardened to 58–62 HRC

## Operating Environment

<b>Parameter</b>	<b>Specification</b>
<b>Ambient Temperature</b>	+5 °C to +45 °C
<b>Relative Humidity</b>	≤ 80% (non-condensing)
<b>Supply Voltage</b>	380 V ± 10%
<b>Supply Frequency</b>	50 Hz
<b>Required Floor Area</b>	20–30 m <sup>2</sup>

## HS Code & Customs Clearance

<b>Parameter</b>	<b>Specification</b>
<b>HS Code (Harmonised System)</b>	8462.29.10.00
<b>Customs Description</b>	Machines for bending, folding, straightening or flattening — numerically controlled
<b>Import Duty Rate</b>	0–5% (varies by country of destination)
<b>VAT / GST</b>	Per local jurisdiction
<b>Required Certification</b>	CE Declaration of Conformity (Machinery Directive 2006/42/EC); ISO 9001 factory audit
<b>Customs Lead Time</b>	5–10 business days (DDP shipments)
<b>Packaging</b>	Vacuum-sealed moisture barrier + plywood crate + steel strapping

## Installation & Commissioning — Turnkey Services

Metal-Asia Industrial Solutions provides comprehensive **Installation & Commissioning (I&C)** packages for clients without in-house mechanical integration capabilities.

Phase	Deliverables	Duration
<b>Site Readiness Review</b>	Foundation load analysis, electrical schematics, ventilation requirements, crane specifications	1–2 weeks pre-delivery
<b>Mechanical Installation</b>	Machine levelling, decoiler alignment, hydraulic & pneumatic connections, guarding installation	3–5 days
<b>Electrical &amp; Control Integration</b>	Power hook-up, IPC commissioning, network configuration, safety circuit verification	2–3 days
<b>Calibration &amp; Trial Run</b>	Roll gap setting, punch-die alignment, cutoff length calibration, material feed calibration	2–3 days
<b>Operator Training</b>	Machine operation, Vertex Design fundamentals, tool change procedures, preventive maintenance	3–5 days
<b>Production Ramp-Up</b>	Supervised first-batch production, quality verification, throughput optimisation	1–2 days
<b>Warranty Period</b>	12 months from FAT (Factory Acceptance Test) sign-off, inclusive of remote diagnostics & on-site response	12 months

Our field-service engineers are deployed globally across EMEA, APAC, and the Americas. All travel, accommodation, and visa costs are included in the I&C package. For shipping and logistics details, refer to our [Global Delivery Services](#).

## Supply Chain Risk Management — Why Direct Procurement from China Fails Without a Compliance Partner

Global procurement of capital equipment from Chinese manufacturers involves documented risks. Metal-Asia Industrial Solutions mitigates these through a formalised **Vendor Qualification & Supply Chain Compliance** programme.

Risk Category	Consequence Without Compliance Partner	Our Mitigation Protocol
<b>Unverified Factory</b>	Receipt of substandard equipment, missing documentation, supplier disappearance post-payment	<a href="#">Factory Qualification Audit</a> — we audit every facility against ISO 9001, Machinery Directive, and 5-year trading history before contract placement
<b>Specification Drift</b>	Equipment arrives without ordered options; unauthorised component substitutions	<a href="#">Pre-Shipment Factory Acceptance Testing (FAT)</a> — every machine is run against the

Risk Category	Consequence Without Compliance Partner	Our Mitigation Protocol
		signed technical specification; photo/video evidence provided to client
<b>Logistics &amp; Customs Complexity</b>	Port delays, incorrect HS classification, demurrage charges	In-house customs brokerage & freight-forwarding team. <a href="#">Global Trade Compliance &amp; Customs Clearance</a> — active since 2016
<b>Post-Sales Service Vacuum</b>	Critical breakdown with no local support; 48–72-hour email delays from factory	Regional service hubs in EMEA and APAC. <a href="#">Industrial Automation &amp; Spare Parts Inventory</a> — 4-hour response SLA
<b>Communication &amp; Specification Errors</b>	Poorly translated technical requirements; mismatched expectations	Bilingual engineering team (EN/CN) stationed at factory. <a href="#">Technical Specification Development</a> — we draft specifications in English and enforce them
<b>Payment &amp; FX Risk</b>	Frozen funds, currency control issues, advance-payment fraud	<a href="#">Trade Finance &amp; Escrow Services</a> — documentary letters of credit, escrow accounts, milestone-based payments
<b>Regulatory Non-Compliance</b>	Equipment fails CE/UL/local certification; cannot be legally commissioned	<a href="#">Technical Compliance Audit</a> — pre-order verification against destination-market Machinery Directive and electrical codes

## Incoterms 2020 — Delivery Options

Term	Scope	Lead Time
<b>EXW</b>	Ex-Works factory gate, Xiamen, China	45–60 days production
<b>FOB</b>	Free On Board, Xiamen port	45–60 days + 3 days loading
<b>CIF</b>	Cost Insurance Freight to destination port (e.g., Rotterdam, Hamburg, Sydney, Los Angeles)	45–60 days + 25–40 days ocean transit
<b>DAP</b>	Delivered At Place — door-to-door including customs clearance & local delivery	75–100 days total
<b>DDP</b>	Delivered Duty Paid — comprehensive door-to-door with all duties, taxes, and clearance	80–110 days total

## Frequently Asked Questions (FAQ)

**Q1: What are the key differences between Rollex-2020 and the baseline C89?** A: Three primary advantages: (1) +30% forming speed, (2) dual-profile output (89 mm + 91 mm) without roll-tool

changeover, and (3) SKD-11 tooling material (vs. Cr12 on baseline), extending roll life by 1.5–2x under equivalent duty cycles.

**Q2: How quickly can I switch between 89 mm and 91 mm profiles?** A: Profile switching is executed through Vertex Design in 2–3 minutes. No physical roll-tool change is required — all forming stands are compatible with both widths.

**Q3: What feedstock steel is required?** A: Hot-dipped galvanised coil, 174 mm width, 0.6–1.2 mm thickness, G300–G550 grade per EN 10346 or ASTM A653. We can bundle coil procurement via our [Global Steel Sourcing Programme](#).

**Q4: What is the all-inclusive cost of a turnkey installation?** A: Pricing depends on final specification, delivery Incoterms, and optional features. Submit your requirements to [procurement@metal-asia.pw](mailto:procurement@metal-asia.pw) — we provide a detailed quotation within 24 hours.

**Q5: Is operator training included?** A: Yes. A 3–5 day training programme (machine operation + Vertex Design fundamentals) is standard with every turnkey installation. Advanced CNC programming modules are available as an option.

**Q6: What warranty coverage is provided?** A: 12 months from Factory Acceptance Test (FAT) sign-off. Coverage includes replacement parts, remote diagnostics via secure VPN, and on-site engineer dispatch for critical failures.

**Q7: Do you maintain a spare parts inventory?** A: Yes. We stock forming rolls, punch dies, cutoff blades, hydraulic seals, and servo components in regional hubs. Typical dispatch lead time is 1–3 business days. Full catalogue: [Industrial Automation & Spare Parts](#).

**Q8: Can we witness the Factory Acceptance Test (FAT) before shipment?** A: Absolutely. We facilitate live video-streamed FAT sessions from the factory floor. On-site witness visits to Xiamen with our engineering escort can also be arranged (travel costs borne by client).

## Contact & Procurement

Detail	Information
Company	Metal-Asia Industrial Solutions
Website	<a href="http://www.metal-asia.pw">www.metal-asia.pw</a>
Division	Global Procurement — Light Gauge Steel Equipment
Email	<a href="mailto:procurement@metal-asia.pw">procurement@metal-asia.pw</a>
Office Locator	See <a href="#">Contact Directory</a>

**Request a Quotation:** Submit your technical requirements through our [main procurement portal](#) or email [procurement@metal-asia.pw](mailto:procurement@metal-asia.pw). Our engineering team responds within 4 business hours with a detailed proposal including specification, lead time, and Incoterms pricing.