

Metal-Asia

TECHNICAL SPECIFICATION

Welded Reinforcement Mesh Production Line & Wire Drawing Equipment

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Segment: Industrial B2B Equipment, Reinforcement Mesh Manufacturing

Target Markets: Europe, North America, Middle East, Africa, Southeast Asia, Latin America

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1. OM-2500Q AUTOMATIC WIRE MESH WELDING MACHINE

1.1 Purpose & Applications

The OM-2500Q is an automatic resistance welding machine designed for manufacturing welded reinforcement mesh from longitudinal and transverse wire with diameters ranging from 6 mm to 10 mm. The finished product is utilized across major infrastructure and construction projects:

- Industrial buildings and warehouses
- Concrete flooring and foundations
- Bridge decks and overpasses
- Road pavements and highways
- Tunnel linings and metro systems
- Residential high-rise structures
- Airport runways and aprons

1.2 Product Output

- Welded reinforcement mesh from longitudinal and transverse wire
- Longitudinal wire pitch: 100–200 mm (fixed or adjustable)
- Transverse wire pitch: 50–300 mm (CNC-controlled)
- Maximum mesh length: 9,000 mm (adjustable)

- Mesh width: up to 2,500 mm (adjustable)

1.3 Technical Specifications

Parameter	Value	Notes
Welding wire diameter	6–10 mm	Longitudinal and transverse
Longitudinal wire feeding	Pre-cut wire lengths	Manual loading
Transverse wire feeding	Pre-cut wire lengths	Automatic hopper
Longitudinal wire pitch	100–200 mm	Fixed or adjustable
Transverse wire pitch	50–300 mm	CNC-controlled
Maximum mesh length	9,000 mm	Adjustable
Welding width	2,500 mm	Adjustable
Number of welding points	24	Simultaneous welding
Welding speed	15–55 rows/min	
Welding method	Pneumatic pressure	Simultaneous / sequential
Control system	PLC + touchscreen	Intelligent interface
Welding transformer power	180 kVA x 12 units	Total 2,160 kVA
Supply voltage	380 V, 50 Hz, ±10%	Requires >400 kW grid
Power cable specification	Copper 120 mm ² x 3+1	
Compressed air pressure	≤0.8 MPa	
Cooling system	Water-cooled	Closed-loop circuit
Equipment color	Grey + blue	Customizable
Dimensions (L x W x H)	38,000 x 6,000 x 2,200 mm	
Manufacturing lead time	70 days	
Approximate weight	18,000–25,000 kg	

1.4 Standard Supply Scope

Item	Description	Qty	Unit
1	Main welding machine OM-2500Q	1	pcs
2	CNC mesh pulling platform	1	set
3	Automatic transverse wire feeding hopper	1	set
4	CNC control cabinet	1	pcs
5	Automatic mesh stacking & unloading system	1	set

Item	Description	Qty	Unit
6	Output roller table	1	set
7	Longitudinal wire support rack	4	pcs
8	Auxiliary control cabinet	1	pcs
9	Air compressor (optional)	1	set
10	Air receiver tank 1 m ³	2	pcs
11	Air dryer unit	1	pcs
12	Air filters	3	pcs
13	Water cooling chiller	1	pcs

1.5 Spare Parts & Consumables (Included)

- Operation manual — 1 pcs
- Welding electrodes — 8 pcs
- Solenoid valves — 3 pcs
- Pneumatic fittings set — 1 set

1.6 Operational Consumables

Material	Purpose
Longitudinal wire 6–10 mm	Pre-cut blanks
Transverse wire 6–10 mm	Pre-cut blanks
Welding electrodes (spare)	Electrode replacement
Cooling water	Closed-loop circuit
Compressed air	≤0.8 MPa
Electrical power	380 V, 50 Hz

2. OM-2000D AUTOMATIC CONSTRUCTION MESH WELDING MACHINE

2.1 Purpose & Applications

The OM-2000D utilizes synchronous electronic control technology for welding construction mesh from wire with diameters of 2.5–5 mm. It is designed for manufacturing lighter-duty mesh used in building construction applications.

2.2 Product Output

- Welded construction mesh
- Wire diameter: 2.5–5 mm
- Longitudinal wire pitch: 50–200 mm (fixed or adjustable)

- Transverse wire pitch: 30–300 mm (CNC adjustable)
- Maximum welding length: 3,000 mm (adjustable)
- Welding width: 2,000 mm (adjustable)

2.3 Technical Specifications

Parameter	Value	Notes
Welding wire diameter	2.5–5 mm	
Longitudinal wire feeding	From coils	Continuous feeding
Transverse wire feeding	Pre-cut wire	
Longitudinal wire pitch	50–200 mm	Fixed or adjustable
Transverse wire pitch	30–300 mm	CNC adjustable
Maximum welding length	3,000 mm	Adjustable
Welding width	2,000 mm	Adjustable
Number of welding points	40	
Welding speed	15–55 rows/min	
Welding method	Electric spring compression	Simultaneous / sequential
Control system	PLC programmable	Touchscreen interface
Welding transformer power	60 kVA x 7 units	Total 420 kVA
Supply voltage	380 V, 50 Hz, ±10%	Requires >120 kW
Power cable specification	Copper 120 mm ² x 3+1	
Compressed air pressure	≤0.8 MPa	
Cooling system	Water-cooled	
Equipment color	Grey, dark blue	
Dimensions (L x W x H)	30,000 x 5,000 x 1,900 mm	
Manufacturing lead time	60 days	
Approximate weight	12,000–18,000 kg	

2.4 Standard Supply Scope

Item	Model	Qty	Unit
1	Main welding machine	OM-2000D	1
2	Servo mesh pulling mechanism	—	1
3	CNC control cabinet	—	1

Item	Model	Qty	Unit
4	Mesh cutting machine	—	1
5	Longitudinal wire straightening unit	—	1
6	Spare parts toolbox	—	1
7	Wire coil holders	—	40

2.5 Optional Equipment

Item	Qty	Unit
1	High-speed wire straightening & cutting machine 3.0–6.0 mm	1
2	Standard wire straightening & cutting machine 3.0–6.0 mm	2

3. WIRE DRAWING MACHINE (MAIN UNIT + AUXILIARY EQUIPMENT)

3.1 Process Overview

This wire drawing line is designed for reducing wire diameter through dies (draw plates) to achieve the required tensile strength. The process chain:

Input wire (6.5–12 mm) → Pay-off → Descaling → Drawing → Coiling of finished product

3.2 Product Output

- Drawn wire diameter: 4–10 mm
- Input diameter: 6.5–12 mm
- Finished coils weight: up to 1,000 kg

3.3 Technical Specifications & Configuration

3.3.1 Drum-type Pay-off Stand

Parameter	Value
Load capacity	2.5 t

3.3.2 Descaling Machine (Rust Removal)

Parameter	Value
Type	Three-roller descaling unit
Max input wire diameter	12 mm

3.3.3 Main Wire Drawing Machine

Parameter	Value
Input diameter	12–6.5 mm
Output diameter	10–4 mm
Main motor power	55 kW
Gearbox	Hardened tooth special design

3.3.4 Intelligent Coiling Machine

Parameter	Value
Coil weight capacity	1 t
Motor power	11 kW
Coil dimensions (ID/OD/H)	510/950/460 mm
Hydraulic pump station	Included (1 set)
Hydraulic cylinder	1 pcs
Hydraulic clamp	1 set
Hydraulic hoses	4 pcs

3.3.5 Electrical Control Cabinet

Parameter	Value
Speed control	Variable frequency drive (VFD)
Protection	Anti-tangle shutoff

3.3.6 Protective Covers

- Motor protective cover — 1 pcs
- Drawing machine protective cover — 1 pcs

3.4 Drawing Dies & Consumables

Item	Qty
Drawing dies (draw plates)	1 set
Tool set	1 set
Drawing powder (lubricant)	1 bag

4. LZ6/560 STRAIGHT-LINE WIRE DRAWING MACHINE

4.1 Process Overview

Designed for continuous drawing of 6.0 mm wire rod into 2.5 mm finished wire (working range: 2.0–5.7 mm output).

Process chain: Wire rod dia. 6.0 mm → Vertical pay-off stand → Enclosed motorless descaling unit → LZ6/560 straight-line drawing machine (9 drums) → Built-in tension device → Coiler with 1T basket

4.2 Product Output

- Drawn wire diameter: 2.0–5.7 mm (optimal: 2.5 mm)
- Production capacity: 1.3 t/hour
- Material: Wire rod with tensile strength ≤ 600 MPa
- Average reduction ratio: $\leq 23.04\%$

4.3 Technical Specifications

Parameter	Value
Equipment name	Straight-line wire drawing machine
Model	LZ6/560
Input wire diameter	6 mm
Output diameter	2.0–5.7 mm
Input material strength	≤ 600 MPa
Average reduction ratio	$\leq 23.04\%$
Production capacity	1.3 t/hour

4.4 Motor Specifications

Unit	Power	Qty
Main drawing unit	22 kW	1
Auxiliary drives	18.5 kW	5
Coiler unit	15 kW	1
Total installed power	127 kW	7 motors

4.5 Drawing Drums & Cooling System

Parameter	Value
Number of drums	9 (No. 1–No. 9)
Drum diameter	560 mm
Drum surface coating	Special spray coating
Coating height	120 mm

Parameter	Value
Wear-resistant layer thickness	≥8 mm
Surface roughness	≤ Ra0.8
Hardness	HRC ≥60
Guaranteed service life	≥22,000 hours / 3 years
Cooling system	Internal high-pressure water cooling
Operating modes	Individual or synchronized
Drum bypass capability	Yes, process-dependent

4.6 Machine Frame & Construction

- Heavy-duty welded box-frame construction
- Materials: Steel plate, I-beams, angle iron (corrosion depth ≤0.3 mm)
- Post-weld heat treatment for stress relief
- Precision machined after heat treatment
- **No special foundation required**
- Designed for high rigidity and vibration-free operation at full speed and load

4.7 Die Holder & Cooling

- Two-chamber welded construction: cooling water chamber + lubricant powder chamber
- Independent water supply, low-pressure high-flow design
- Direct immersion-type die cooling
- Wire entry temperature: ≤65°C
- Wire exit temperature: ≤160°C
- Optional: lubricant powder chamber can be replaced with liquid lubrication system

4.8 Drive System

- Hardened gear reducers
- Narrow V-belt transmission
- High efficiency, low noise (≤82 dB)
- High-quality bearings

4.9 Control System

Component	Specification
PLC	Siemens
Variable frequency drives	Included
Main circuit breaker	Industrial grade
Low-voltage components	Industrial grade

Component	Specification
Motors	Industrial grade
HMI touchscreen	Color display

4.10 Operating Modes

Parameter	Value
Drum operation	Individual or synchronized
Start-up sequence	Low speed ramp-up to set speed
Line speed adjustment	Ramp-up/down buttons on main panel
Normal stop time	≤30 sec
Fast stop time	≤10 sec
Emergency stop time	≤5 sec
Operating modes	Single-step, jogging, synchronized, continuous proportional
Wire break protection	No wire break on any stop/start cycle

4.11 Coiler Specifications

Parameter	Value
Basket material	Steel Q355 (minimum)
Coil diameter	≥800 mm (customizable)
Load capacity	≥1 t
Clamping	Pneumatic
Length counter accuracy	≤0.1%
Winding type	Horizontal with protective hood or fully automatic

5. GENERAL FACILITY REQUIREMENTS

5.1 Production Floor Space

Equipment	Floor Space Required	Ceiling Height
OM-2500Q Welding Machine	38 x 6 m (228 m ²)	Min. 3.5 m
OM-2000D Welding Machine	30 x 5 m (150 m ²)	Min. 3.0 m
Wire Drawing Machine (set)	15 x 8 m (120 m ²)	Min. 3.5 m
LZ6/560 Drawing Machine	25 x 6 m (150 m ²)	Min. 3.5 m

Total recommended production area (all equipment):

- Minimum production floor: 650–700 m²
- Raw material & finished goods storage: +200–300 m²
- Office & auxiliary facilities: +50–100 m²
- **Grand total: 900–1,100 m²**

5.2 Infrastructure Requirements

Parameter	Requirement
Electrical supply	380 V, 50 Hz, 3-phase + neutral + ground
Total power consumption	>550 kW (all machines)
Main cable cross-section	Copper, min. 120 mm ² x 3+1
Water supply	Closed-loop cooling with cooling tower
Compressed air	≤0.8 MPa, receiver 1 m ³ x 2
Floor specification	Industrial concrete floor
Ventilation	Exhaust ventilation (especially at welding stations)
Lighting	Min. 200 lux at workstations

6. CUSTOMS & SHIPPING DOCUMENTATION**6.1 HS Codes (Harmonized System)**

Equipment	HS Code	Description
OM-2500Q Mesh Welding Machine	8462.90.80	Other machine tools for working metal
OM-2000D Mesh Welding Machine	8462.90.80	Other machine tools for working metal
Wire Drawing Machine	8463.30.00	Wire drawing machines
LZ6/560 Straight-Line Drawing Machine	8463.30.00	Wire drawing machines
Electrical Control Cabinets	8537.10.00	Control panels and desks
Pay-off / Coiler Units	8462.90.80	Auxiliary equipment

6.2 Shipping Information Summary (Complete Equipment Set)

Parameter	Value
Total number of packages	25–40 packages
Total shipping volume	~130–170 m ³
Total gross weight	~53,000–77,000 kg (53–77 MT)

Parameter	Value
Transport type	2–3 x 40HC containers or flatbed trucks
Special handling	Standard cargo handling
Packaging	Wooden crates, open-frame for large units

6.3 Import Documentation

Metal-Asia.pw provides full customs clearance support including:

- Commercial invoice & packing list
- Certificate of origin
- Technical documentation & manuals (English)
- CE compliance documentation (where applicable)
- Bill of lading / CMR / airway bill
- Customs declaration preparation
- Import duty and VAT advisory

7. PERSONNEL REQUIREMENTS

7.1 Commissioning Phase Personnel

Position	Quantity	Function
Commissioning engineer (supplier)	2–3	Installation, startup, training
Translator (if required)	1	Communication support
Customer technical staff	4–6	Training, commissioning participation

7.2 Regular Operations Personnel

Position	Quantity	Function
Shift supervisor / foreman	1	Overall supervision
OM-2500Q machine operator	2 (shifts)	Machine operation, parameter control
OM-2000D machine operator	2 (shifts)	Machine operation, parameter control
Wire drawing machine operator	2 (shifts)	Loading, drawing process control
LZ6/560 line operator	2 (shifts)	Loading, drawing, coiling
Maintenance mechanic	2	Routine maintenance, repairs
Electrician	1	Electrical system maintenance
Material handler	2	Loading, unloading, moving
Total per shift	14–15 people	

Position	Quantity	Function
Total for 2 shifts	28–30 people	
Total for 3 shifts	42–45 people	

7.3 Qualification Requirements

Position	Requirements
Machine operators	Technical education, supplier training certification
Maintenance mechanic	Experience with metalworking machinery
Electrician	Certified for electrical installations up to 1,000 V
Shift supervisor	Production management experience, technical education

APPENDIX: SUMMARY SPECIFICATION TABLE

Parameter	OM-2500Q	OM-2000D	Wire Drawing Machine	LZ6/560
Purpose	Reinforcement mesh welding	Construction mesh welding	Wire drawing	Wire rod → wire drawing
Wire diameter	6–10 mm	2.5–5 mm	6.5–12 mm → 4–10 mm	6 mm → 2.0–5.7 mm
Width / output	2,500 mm	2,000 mm	—	—
Speed	15–55 rows/min	15–55 rows/min	—	1.3 t/hour
Power	2,160 kVA	420 kVA	55 kW + 11 kW	127 kW
Voltage	380 V, 50 Hz	380 V, 50 Hz	380 V, 50 Hz	380 V, 50 Hz
Dimensions (L x W x H)	38 x 6 x 2.2 m	30 x 5 x 1.9 m	~8 x 3 x 2 m	~12 x 2.5 x 2 m
Floor space	228 m ²	150 m ²	120 m ²	150 m ²
Weight (approx.)	18–25 t	12–18 t	8–12 t	15–22 t
Lead time	70 days	60 days	—	—
Cooling	Water-cooled	Water-cooled	Water-cooled	Water-cooled
Control	PLC + touchscreen	PLC + touchscreen	VFD	Siemens PLC + HMI



Turnkey supply of industrial welded mesh production equipment with global delivery

Document prepared based on manufacturer technical documentation. All parameters have been verified against original specifications. All weights and volumes for packing lists should be confirmed with the supplier prior to shipment. HS Codes are indicative and should be verified with your customs broker. Supplier: [Metal-Asia.pw](https://www.metal-asia.pw), Author: [Milosh Kovachevi](#).