

# Side Trimmer

Greater accuracy, innovative  
processes and availability

# Committed to continuous improvement.

## YOUR CHALLENGE

### LINE PRODUCTION

Metal producers need the most reliable machine to avoid stoppage and improve production rates. They expect a very precise and intelligent machine to reduce the scrap width.

### ROBUSTNESS AND EASE OF USE

The equipment must be of sturdy construction and have optimal service lifetime. The operation must be easy and maintenance limited.

### QUALITY

The strip cutting quality must be perfect to match customer requirements, increase the knife lifetime and reach the required cutting profile.

### SAFETY

The operation must be safe, operator friendly and without line stoppage.

## OUR SOLUTION

The Side Trimmer mechatronic packages have been designed for the best strip edge cutting quality on your production lines for Carbon steel and Stainless steel.

Clecim has more than 50 years' experience in side trimmer mechatronics and operates in many various strip processing lines from Pickling Line/ Tandem Cold Mills to Inspection Lines. This experience helps us build robust and reliable trimmers. The DWA and integrated edge-monitoring functions prevent line stoppage and make production gains by increasing the cutting width and minimizing the scrap.

As a result of long years of experience, our machines are famous worldwide for their robustness and lifetime. They include a fully automatic system to minimize operator assistance.

Our machine provides the best cutting quality and accuracy through a high level of design and the selection of components of the highest quality. It is designed to integrate edge quality inspection system on board with possibility to provide feedbacks on side trimmers settings.

The machine is delivered with an integrated safety concept which allows the operator to work safely for daily maintenance without interrupting the production.

- DWA = Dynamic Width Adjustment

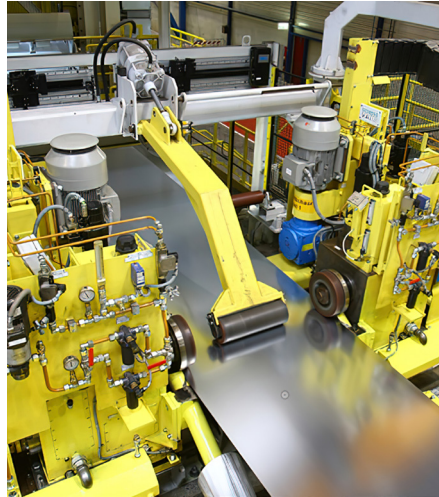


# Advantages of strip processing

## high cutting width accuracy.



Heavy Side Trimmer



Medium Side Trimmer

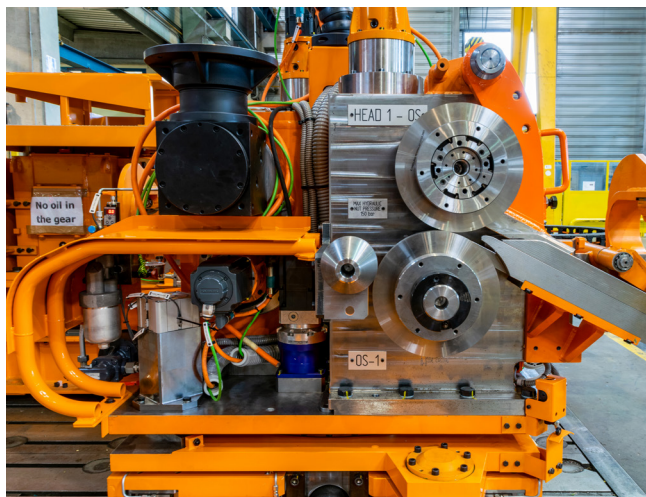


Scrap Chopper

		Side Trimmers		Scrap Chopper
		ST 21 H Turret type	ST 21 M Turret type	
Carbon Steel	Pickling Line & Tandem Coupled (PLTC)	X		X
	Continuous Pickling Line (CPL)	X		X
	Push-Pull Pickling Line (PPPL)	X		X
	Continuous Galvanizing Line (CGL)		X	X
	Electrolytic Galvanizing Line (EGL)		X	X
	Continuous Annealing Line (CAL)		X	X
	Tension Leveling Line (TLL)		X	X
	Inspection Line (IL)		X	X
Stainless Steel	Annealing & Pickling Line (APL)	X		X
	Finishing Line (FL)		X	X

### GOOD REASONS FOR CLECIM

- Engineering in house and support on projects execution : Mechanical, Civil work (Basic engineering), Steel structure, Fluids, Chemical Processes, Electric and Automation
- Complete workshop building and testing : Our Side Trimmer machines are assembled and tested in our workshop in Montbrison, France. All the individual movements, interlocks, safety functions and sequences are checked during assembly
- Revamping : The mechatronic package concept permit to easily replace a machine and is especially adapted to revamping projects. It permits to lower the shutdown time and to have a fast ramp-up
- Perfect integration : Our Side Trimmer machines have been designed for a perfect integration into processing



Medium Side Trimmer

Edge trimming of the strip brings high added value to the coil by eliminating strip edge defects and giving a precision width tolerance. Available in many processing lines like Pickling Lines, Annealing Lines, Galvanizing Lines, Tinning Lines, Inspection Leveling and Cut-to-Length Lines, the side trimming section is a key equipment for final quality of the product.

Clecim equipment for side trimming section covers the full range of processing lines with various sizes of Side Trimmers, single pair of heads or double pair of heads, Turret type for fast knife changing, Scrap Chopper associated with the Side Trimmer to manage the scrap according to the strip thickness and speed.

Using the latest advanced technology in servomotors and screw ball system without backlash, the Clecim Side Trimmer is a high precision machine in its construction to match the tolerance quality result on the strip.

The new Side Trimmer generation features a fully electrical system without hydraulic media, which simplifies maintenance and becomes environmentally friendly without oil leakage and fire risk. The technological solution integrates Siemens engineered automation systems which provide a top level performance in terms of cutting accuracy.

Optional function DWA (Dynamic Width Adjustment) is available to change width between two coils without stopping the strip.



HMI display

Our systems are engineered, manufactured and tested for:

- User-friendly operation
- Convenient diagnostics
- Optimized maintenance
- Complete workshop testing

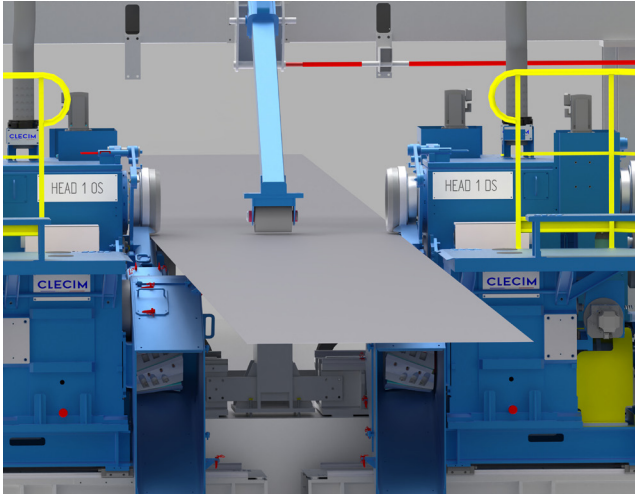
## MAIN BENEFITS

- Accuracy in the strip width and coil
- High precision in automatic knife adjustment with less burr
- Safe and reliable management of the scrap evacuation
- Quick knife replacement with turret type side trimmer
- Environmentally friendly using electric energy and without hydraulic media

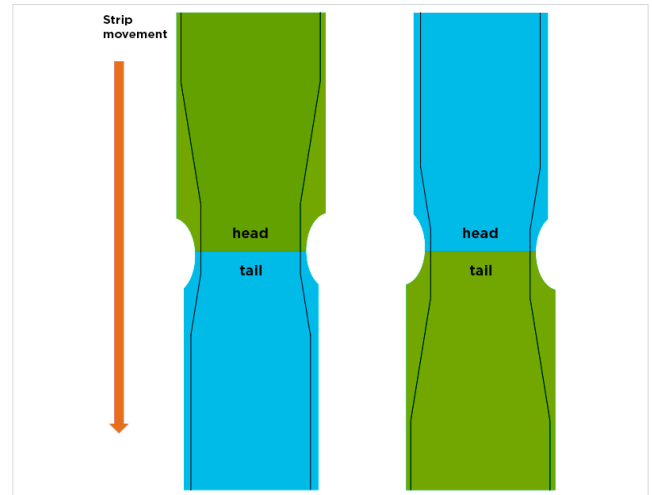
Application	CAL, CGL, CPL, PLTCM, PPPL, Stainless Steel Lines
Function	To trim the edge of the strip
Product thickness	0.2 to 8 mm
Product width	600 to 2,100 mm
Line speed	0 to 700 mpm
Material	Carbon Steels, Low Alloyed Steels, HSS, Silicon & Stainless Steel

# Improving line production yield

## Dynamic Width Adjustment (DWA).



Engineering 3D



DWA with notched strip

### DWA FOR SIDE TRIMMERS

DWA is an integrated mechatronic feature that performs adjustment of cutting width during line run. This full automated sequence minimizes the side trimmer section cycle time, significantly reduces cobble rate (slit edges are being kept engaged into scrap chute) and eliminates risk of strip breakage for narrow strip (notching sequence becomes useless).

At last, process speed is increased to a point where trimmed and untrimmed production levels nearly meet each other, allowing fast investments recover.

DWA is based on a specific actuation system. The DWA is rotating the Side Trimmer at the vertical of the cutting axis generating no stress on the knives. The angle of knives and the width change are continuously calculated by the software to ensure smooth trajectories.

Included in Side Trimmer PLC, DWA's automation system receives from line PLC information of the product that comes next (new strip width, new thickness, weld position, line speed...). Then it calculates an optimised motion profile according to these data. Line decelerates in the Side Trimmer area and on-fly width change is launched. Cutting angle and frames head movements are controlled accurately all along the profile according to the weld position for a minimized stress.

The machine is designed to be upgraded from the Classic Mode to the DWA Mode at any time.

### MAIN BENEFITS

- Increased production yield
- Fast investment recovering with optimized planned production
- Lowered entry cycle time (no notch necessary)
- Lowered exit cycle time (no stoppage at side trimmer)
- Slit edge is kept inside chutes: cobbles risks at threading is eliminated
- Less risk of strip breakage for narrow strip

#### Application

CAL, CGL, CPL, PLTCM, PPPL,  
Stainless Steel Lines



# Excellence from Experience

## SELECTED SUCCESS STORIES WITH SIDE TRIMMER



BORCELIK  
Gemlik, Turkey

Line type: Pickling Line (PL)

Clecim solution: Non driven knife

Your benefit: High cutting quality EdgeMon. High strip cutting speed 600 mpm

Technical data: Width: max 1550 mm; Thickness: 1.2 - 6.0 mm



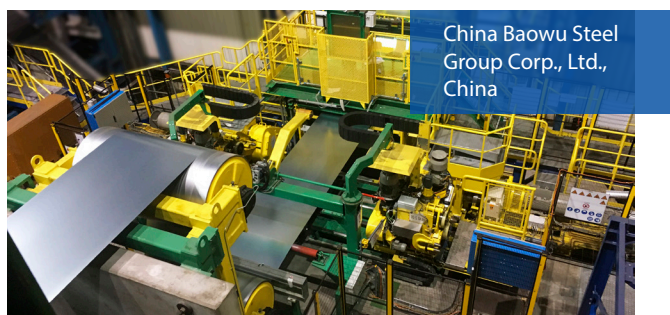
ArcelorMittal  
Saint-Chely, France

Line type: Continuous annealing and coating lines

Clecim solution: Mechatronic package and Driven knife, for e-steel

Your benefit: High cutting quality and reliability

Technical data: Width: max 1350 mm; Thickness: 0.2 - 1.5 mm



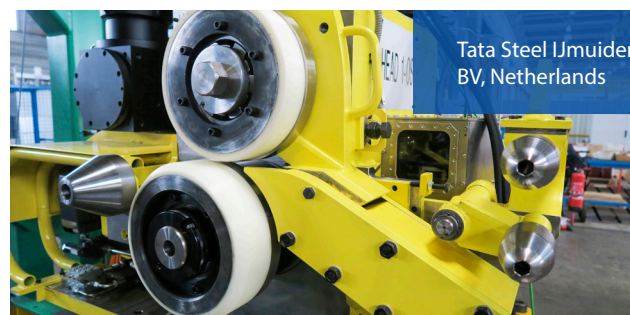
China Baowu Steel  
Group Corp., Ltd.,  
China

Line type: Continuous Annealing Line (CAL)

Clecim solution: Driven knife associated with scrap press for high speed

Your benefit: High production rates

Technical data: Width: max 1430 mm; Thickness: 0.3 - 2 mm



Tata Steel IJmuiden  
BV, Netherlands

Line type: Continuous Galvanizing Line (CGL)

Clecim solution: Driven knife integrated, Safety, DWA, EdgeMon

Your benefit: Safe maintenance, High cutting quality for automotive products

Technical data: Width: max 1650 mm; Thickness: 0.3 - 3.0 mm

# Lifecycle management

## BDA way of working.

As a partner, we support you all along the lifecycle of your equipment through our BDA way of working:



- Before: define improvements and optimization solutions through Consulting Services
- During: deliver on our commitments with premium quality equipment and services to enable our customers reaching their targets
- After: support the operations and maintenance activities with on-site assistance and spare parts

### LIFECYCLE SERVICES

As a Side Trimmer user, you have conflicting needs. On the one hand, your performance is measured each quarter against short-term profitability expectations. On the other hand, you have to think on a totally different time scale compared with the capital market. Depending on the lifetime of your Side Trimmer, you have to take 15 years or more into account. At the very least, that's 60 full quarters.

But thanks to our comprehensive expertise and integrated approach to solutions, you benefit both short-term and long-term from our lifecycle services.

In the short term: backed by our extensive experience with many reference plants, we provide you with the certainty of fast, dependable production start-up and shorter amortization periods.

In the long term: our master plan guarantees competitive performance for your plant and your Side Trimmer in every phase of its lifecycle. Whether we are providing technical support, optimizing maintenance, or making permanent plant improvements, we are always working to ensure the cost effective operation of your plant and products. Thanks to our lifecycle supports organized in clusters (Europe, America and Asia), you will benefit from our worldwide presence.

### MORE THAN 70 REFERENCES WORLDWIDE:

- Spare parts (Clecim spares catalog)
- Remote support
- Maintenance
  - Yearly visit
  - Knives replacement
- Upgrade and optimization
- Training and coaching
- Expertise and performance audit
- Consulting



CLECIM SAS  
41 Rue de Feurs, CS 50099  
42600 Savigneux Cedex, France  
T +33 4 77 96 63 00  
[contact@clecim.com](mailto:contact@clecim.com)



© 2023 CLECIM SAS ALL RIGHTS RESERVED



The information (including, e.g., figures and numbers) provided in this document contains merely general descriptions or characteristics of performance based on estimates and assumptions which have not been verified.

These estimates and assumptions have to be analyzed on a case-to-case basis and might change as a result of further product development.

CLECIM SAS excludes any liability whatsoever under or in connection with any provided information, estimates and assumptions. The provided information, estimates and assumptions shall be without prejudice to any possible future offer and/or contract.