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SENFENG

HOW TO SELECT YOUR SHEET LOADING & UNLOADING DEVICES

www.senfenglaser.com

Provide Global Customers with Metal
Forming Automation Solutions

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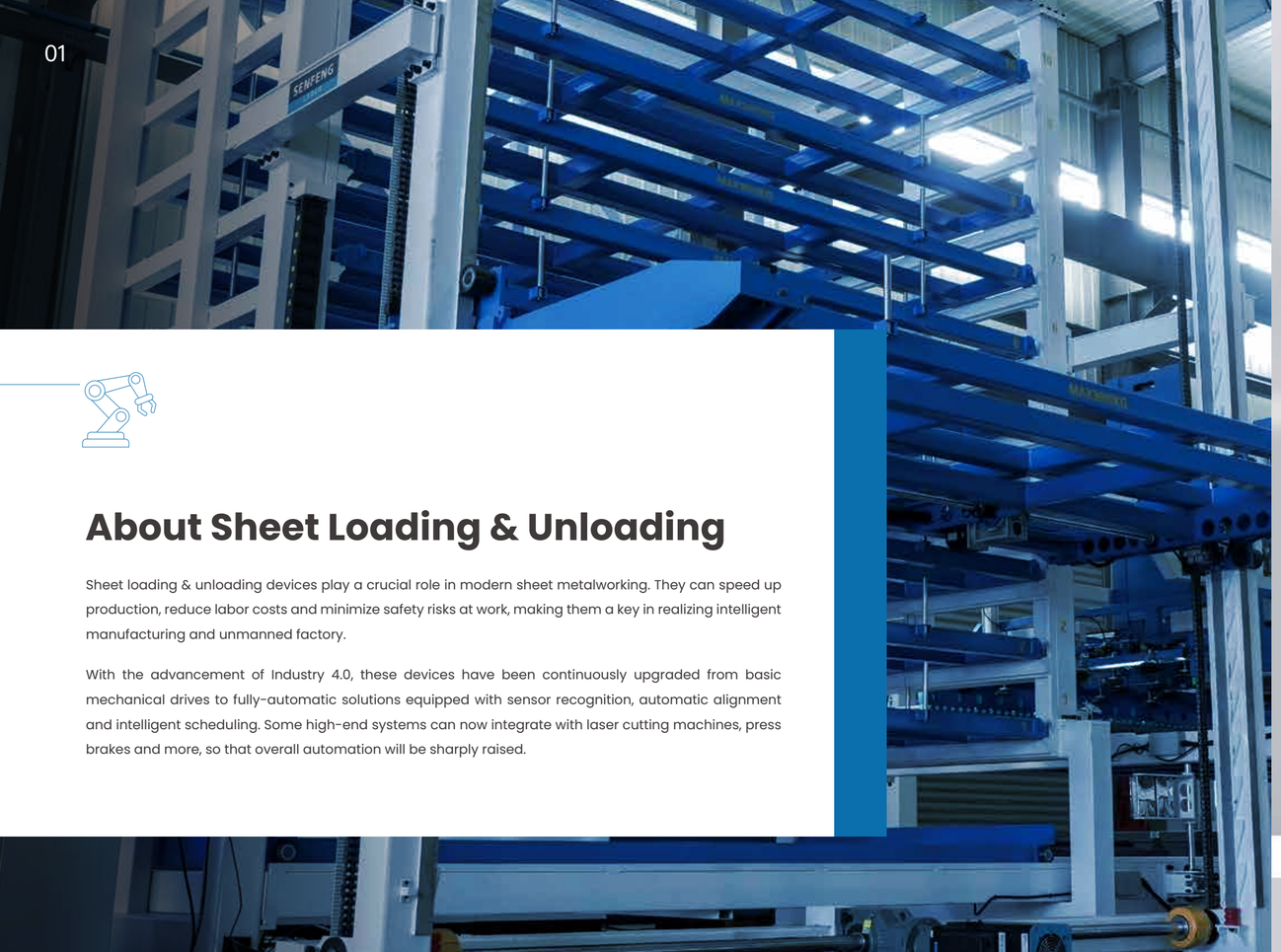


About Sheet Loading & Unloading

Sheet loading & unloading devices play a crucial role in modern sheet metalworking. They can speed up production, reduce labor costs and minimize safety risks at work, making them a key in realizing intelligent manufacturing and unmanned factory.

With the advancement of Industry 4.0, these devices have been continuously upgraded from basic mechanical drives to fully-automatic solutions equipped with sensor recognition, automatic alignment and intelligent scheduling. Some high-end systems can now integrate with laser cutting machines, press brakes and more, so that overall automation will be sharply raised.

Technical Patents at Home and Abroad

With professional R&D centers and sophisticated R&D teams, we have got 577 technical patents and showcased our technical strengths to all global customers.

577 Technical Patents

By the end of Dec. 31, 2022.

International Certifications

Our export machines have got TUV-CE (EU), FDA (the United States), ETL (the North America), CSA (Canada) and many other certifications. This means that our machines have reached the world advanced level in both quality and safety.

FENG CLOUD System

Digital and Intelligent

The system can access into other global-oriented web platforms to link up up machines, production line, staff, factory, warehouse, supplier, finished products and customers, just for sharing data and resources. In this way, the entire manufacturing process will become more digitized, networked, automatic and intelligent.

Smart Interconnection with Each User

Go out with peace of mind

Finished product positioning, track query, remote failure diagnosis, history machine failure query.

Keep your machine safe

Remote diagnosis and maintenance, redundancy, real-time record of historical data, and efficient connection with MES system in customer factory.

Make high-quality plans

Save manufacturing costs by making good-value plans after calculating the specific manufacturing and repair costs in specified algorithm.

Advance into 5G era

Use 5G technology to connect laser machines with AI, in order to make our worldwide remote diagnosis service easy and responsive.

Business Division

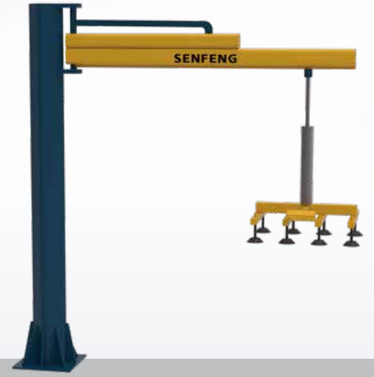
SENFENG's Sheet Loading & Unloading Division is a core part of our intelligent manufacturing strategy. It focuses on the relevant R&D and innovation, providing fast, safe and intelligent solutions for laser cutting, bending and other metalworking steps. With that, all users can enjoy high level of automation.

It always follows a development model driven by both independent R&D and voice of customer while optimizing the performance and intelligence of its devices. The goal is to deliver more efficient, reliable and cost-effective smart manufacturing solutions to customers worldwide.

Sheet Cutting Automation

Manual Pneumatic Cantilever Loading Device

The device, through manual operation by operators, can make use of suction cups to absorb and move sheets, as thus, metal sheets are accurately put on platforms of laser cutting machine from storage area. This is a kind of flexible and reliable loading mode.



Technical Parameters

Work with	3015HC/3015H (Gen 4)	4020HC/4020H (Gen 4)
Adapt to (working area)	3000*1500mm	4000*2000mm
Sheet thickness (carbon steel) loaded	14mm	8mm
Max weight of sheets	500kg	500kg

* Machine appearance, function description and technical parameters on this page are derived from SENFENG's Technical R&D Center based on our self-developed machines. For reference only, in kind prevail!

Sheet Cutting Automation

Single-cantilever Automatic Loading Device

Users only need to click ON button to start automatic loading. With full automation and no manual intervention, it allows for 24/7 operation. Moreover, this also avoids the need for multiple people to lift sheets, reducing the number of workers and labor intensity.

Technical Parameters

Work with	3015HC/3015H (Gen 4)	4020HC/4020H (Gen 4)
Adapt to (working area)	3000*1500mm	4000*2000mm
Sheet thickness (carbon steel) loaded	8mm/21mm	5mm/11mm
Max weight of sheets	300kg/750kg	300kg/750kg
Loading mode	Suction cups	Suction cups

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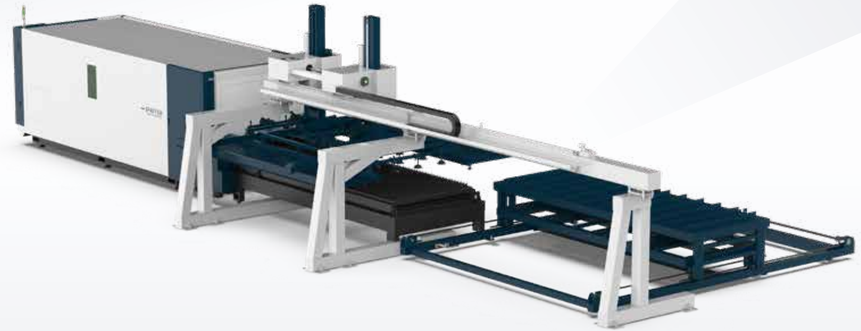
Sheet Cutting Automation

Single-side Gantry Automatic Loading & Unloading Devices

Its mechanical arm uses suction cups to pick up sheets from material trolley, transport them to platforms of laser cutting machine for loading. After cutting, its crossing forks transfer the finished products and wastes to the corresponding trolley near the platforms.



Technical Parameters

Work with	3015HC/3015H (Gen 4)	4020HC/4020H (Gen 4)
Adapt to (working area)	3000*1500mm	4000*2000mm
Sheet thickness (carbon steel) loaded	14mm	8mm
Max weight of sheets	500kg	500kg
Loading mode	Suction cups	Suction cups
Unloading mode	Crossing forks	Crossing forks

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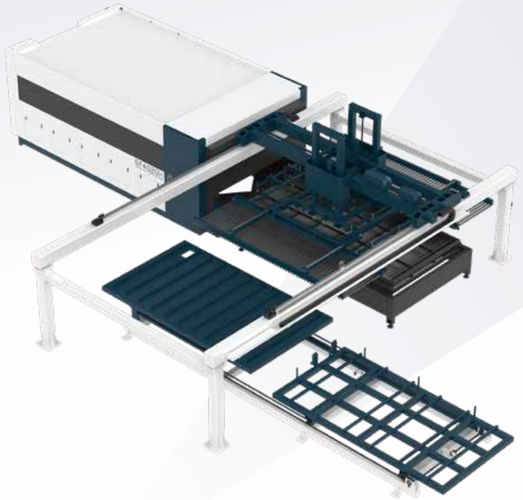
Sheet Cutting Automation

Double-side Gantry Automatic Loading & Unloading Devices



As for this device, its mechanical arm is equipped with multiple sets of vacuum oil-resistant suction cups, each set having a manual valve for automatically loading, unloading and separating sheets. An electric double-layer material trolley is also available, therein, one layer supplies raw materials to laser cutting machine, while the other stores sheets after cutting.

Technical Parameters

Work with	3015HC/3015H (Gen 4)	4020HC/4020H (Gen 4)	6025H (Gen 4)
Adapt to (working area)	3000*1500mm	4000*2000mm	6000*2500mm
Sheet thickness (carbon steel) loaded	14mm/28mm	8mm/15mm	4mm/8mm
Max weight of sheets	500kg/1T	500kg/1T	500kg/1T
Loading mode	Suction cups	Suction cups	Suction cups
Unloading mode	Crossing forks	Crossing forks	Crossing forks

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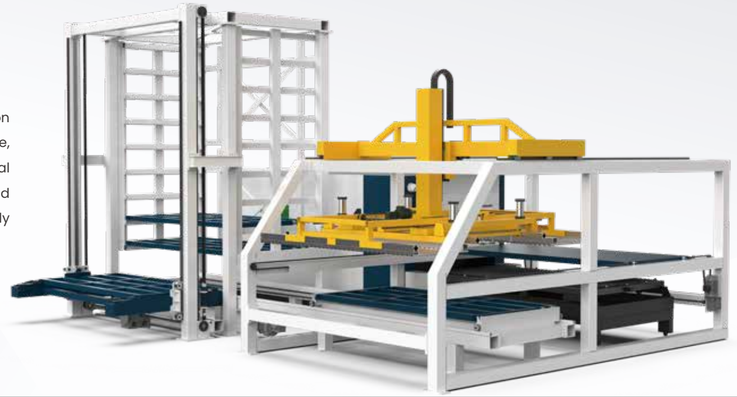
Sheet Cutting Automation

Compact Loading & Unloading Devices for Pallet Racks

The production line adopts a one-stop automation process from production scheduling, plate storage, retrieval, feeding, cutting, unloading to waste material transfer, achieving automatic loading, unloading and stereo storage of sheets, offering users a scientifically compact storage solution.



Technical Parameters

Work with	3015HC/3015H (Gen 4)	4020HC/4020H (Gen 4)
Adapt to (working area)	3000*1500mm	4000*2000mm
Sheet thickness (carbon steel) loaded	8mm	4.5mm
Max weight of sheets	300kg	300kg
Number of storage layer	8	8
Max load of each layer	3T	3T
Loading mode	Suction cups	Suction cups
Unloading mode	Crossing forks	Crossing forks

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Sheet Cutting Automation

Backward Span Loading & Unloading Devices for Pallet Racks

Based on specific task, its control system can retrieve sheets from pallet racks for loading absorbed by mechanical arm, then, its rear crossing forks will unload sheets after cutting. Such full automation helps to speed up entire production.

Technical Parameters

Work with	3015HC/3015H (Gen 4)	4020HC/4020H (Gen 4)
Adapt to (working area)	3000*1500mm	4000*2000mm
Sheet thickness (carbon steel) loaded	14mm	8mm
Max weight of sheets	500kg	500kg
Number of storage layer	8	8
Max load of each layer	3T	3T
Loading mode	Suction cups	Suction cups
Unloading mode	Crossing forks	Crossing forks

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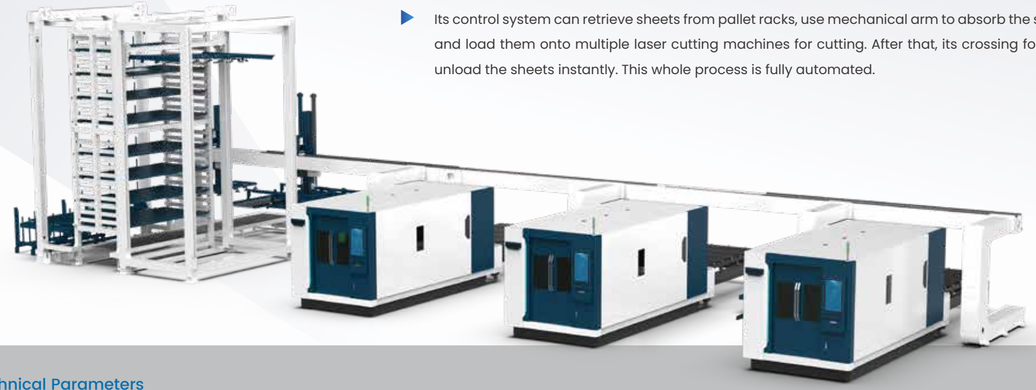
Sheet Cutting Automation

One-to-many Double-truss Loading & Unloading Devices for Pallet Racks



Its control system can retrieve sheets from pallet racks, use mechanical arm to absorb the sheets, and load them onto multiple laser cutting machines for cutting. After that, its crossing forks will unload the sheets instantly. This whole process is fully automated.

Technical Parameters

Work with	3015HC/3015H (Gen 4)	4020HC/4020H (Gen 4)
Adapt to (working area)	3000*1500mm	4000*2000mm
Sheet thickness (carbon steel) loaded	14mm/28mm	8mm/15mm
Max weight of sheets	500kg/1T	500kg/1T
Number of storage layer	8-15	8-15
Loading mode	Suction cups	Suction cups
Unloading mode	Crossing forks	Crossing forks

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Sheet Cutting Automation

Single-/Multiple-row Sheet Storage Pallet Racks

The system includes multiple sets of stereo storage racks, gantry stacker, CNC system, information system, safety guardrail, etc., so as to achieve automated and intelligent operation.

Technical Parameters

Number of rows	7
Number of storage layer	10
Number of storage locations	70
Max load of each layer	3T
Height	6m

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Applicable Industries

Aerospace

Automobile parts

Chassis cabinet

Security door

Engineering machinery

New energy

Kitchenware and sanitary wares

Decorative curtain wall

Office furniture

Medical instrument

Sheet metal working

AL product machining

After-sales Service

Quick-response Service

High Efficiency

Answer your repair calls for 24*7*365 days

Technical engineers can diagnose your machine within 10min, make repair plans within 1h and dispatch to your location within 1 workday after receiving your request for repair.

Craftsmanship Spirit

Provide custom-made solutions and make well-targeted plans as the case may be

Engineer certifications: Our all engineers take appointment with certificate after strict training

Train how to fix your FAQ: Collect FAQ and ask the certified engineers to train relevant customers

Online one-to-one guidance: Senior engineers guide customers to get problems solved through phone, video or other online means.

One time is enough: Commission the machine and settle similar matters only once

For Your Peace of Mind

Pre-arrival service: Train in technical theory, actual operation and troubleshooting at great length

Regular service: Reminder of maintenance, door-to-door and sales promotion service

Value-added service: Software & hardware upgrade, finance leasing and further extension of warranty period