无锡海路丰科技有限公司
Wu Xi Hai Roll Fone Science & Technology Co.,Ltd

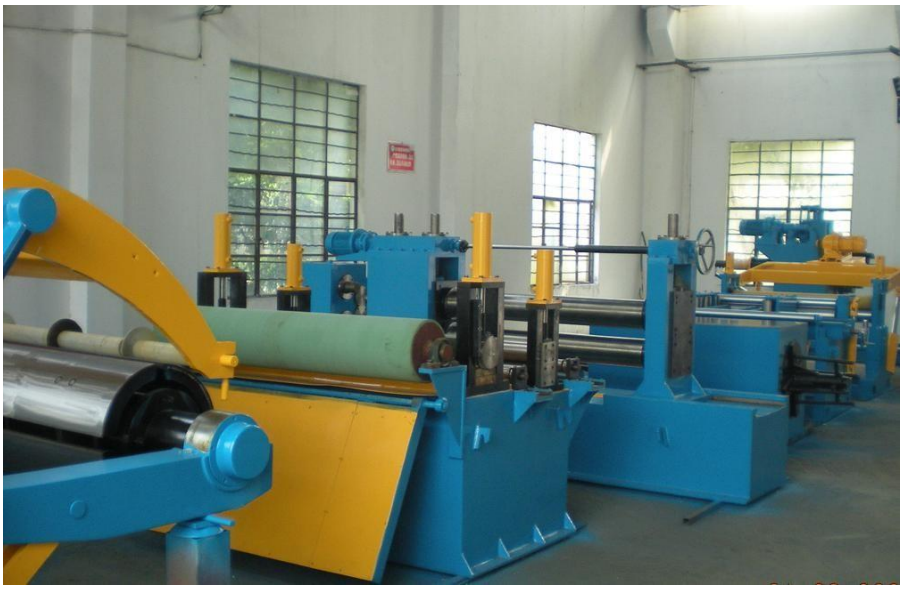
Quotation

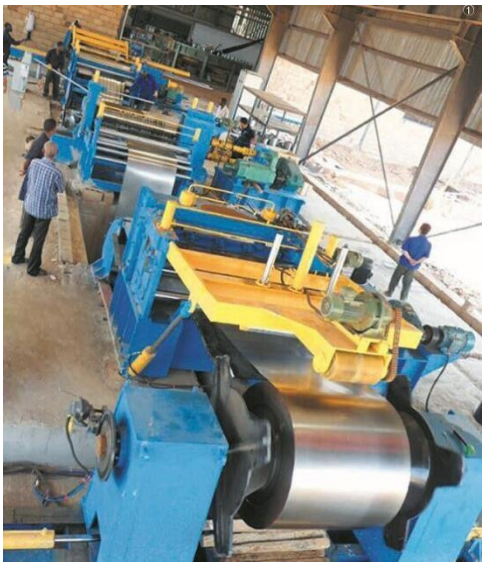
Ref. #:Q20231020-HRF

Item No: 0.3-3.0 x1850mm Automatic High-Precision Slitting Machine
Payment terms: 30% to be paid by T/T, 70% to be paid before shipment
Delivery time: 150 days after 30% down payment
Guarantee: 12 months

Automatic High-Precision Slitting Machine

Technical Specification
(0.3～3.0)×1850mm





1. Basic technical parameters

1.1 coils

- Material of coils: medium & high carbon pickled hot rolled steel coils etc.

- Steel grade: AISI1050,1075, 1095,etc.
- Strip thickness: 0.3～3.0mm
- Strip width: 900～1850mm
- Inner diameter of coils: Φ740-780mm
- Outer diameter of coils: Φ1400-1925mm.
- Max. coil weight: 10000Kg

1.2 Machine

- Slitting capacity: 0.3-2.0mm, max 12strips, 40-60m/min; 2.0-3.0mm, max 9strips, max 30-50m/min
- Minimum slit strip width: 32mm
- Slitting speed: max 60m/min
- Land occupation: about 30m length, 9m width
- Input direction: Right to Left
- Power source: 480V, 60Hz, 3Ph.

2. Working process

Coil-loading—— Double cone mandrel uncoiling——Coil-end-feeding & shoveling——Double-roller pinch feeding/five-roller leveling — — End-cutting----Transmission table ——Strip-aligning---------- Disc slitting ——Scrap reeling ——Hole Accumulator ——Pre-separator / Tensioner ——Separating, Recoiling——Coils-discharging——Hydraulic control——Electric control

3.Description of equipments

3.1 Coil loading car

- Structure: Four wheels, car body made by welding
- Driving motor: 2.2kw cycloid pin-wheel motor

- Up-down movement driving: hydraulic cylinder Φ200×700mm
- Up-down moving distance: 700mm
- Max loading weight: 10000Kg.

3.2 Single head Uncoiler：

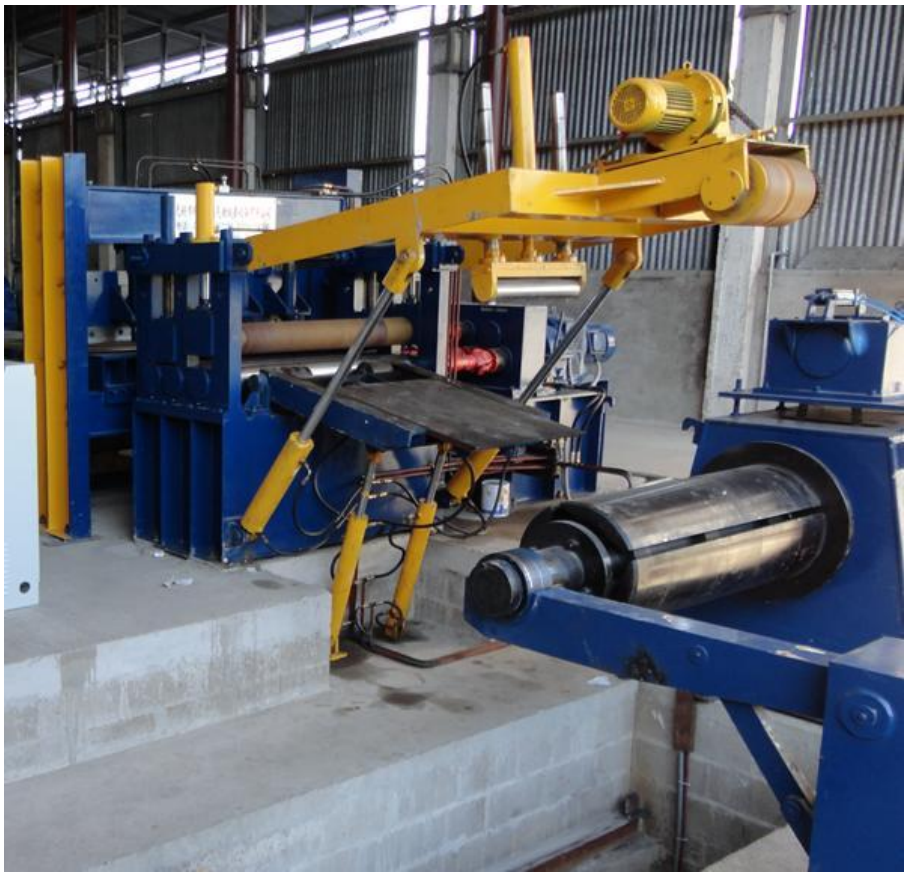
- Working style: axial moving expansion by hydraulic cylinder driving Slanting slider
- Uncoiling mandrel: Φ508×1850mm, for other coils of bigger inner diameter, put 23 rubber sleeve on the mandrel.
- Expansion range: Φ460--Φ510mm.
- Hydraulic cylinder for expansion: Φ140×100mm
- Braking style: pneumatic pressure-regulating brake
- Max. coil diameter： 1850mm
- Max coil weight： 10000Kg

3.3 Coil-end feeding & shoveling equipment

- Structure: welding assembly with steel plates, up-down movement by hydraulic cylinder .
- Two sets of Φ100×500mm hydraulic cylinder
- Traction wheel: Φ300 × 500mm, NBR rubber wheel
- Driving motor for traction: 7.5kw cycloid pin-wheel motor
- Coil-head straightening up device: double pillar guide, hydraulic press straightening roller on coil head with shoveling plate support from under, to send coil head enter pinch rolls.
- Straightening roller: Φ100 x 800mm, hydraulic cylinder: Φ120×500mm.
- Shoveling structure: welding assembly with steel plates, two tongue-shaped plates(big one to move up-and-down, small one to expand and contract)
- Hydraulic cylinder for big tongue up-down movement: Φ80×400mm
- Hydraulic cylinder for small tongue expansion Φ63×400mm

3.4 Double-roller pinch feeder, Five-roller leveler

- Welding assembly with steel plates, double-roller pinch feeding the coil strip.
- Feeding roller and leveling roller: Φ160×1950mm
- Material of feeding roller and leveling roller: 40Cr, hard chrome plating, drive feeding roller covered with NBR rubber
- Oil cylinder for up-down moving of feeding rollers: two pcs, Φ100×100mm
- Up-down moving of leveling rollers: worm gears, 2.2KW cycloid reducer
- Feeding and leveling power: 37KW DC motor and reducing gearbox connected with universal joints



3.5 Hydraulic shear

- To cut off the redundant end of hot rolled coils or cut in midway of coil strip, here install one hydraulic shearing equipment for max.1850mm wide and 3mm thick strip.

3.5 Transmission Roll Table

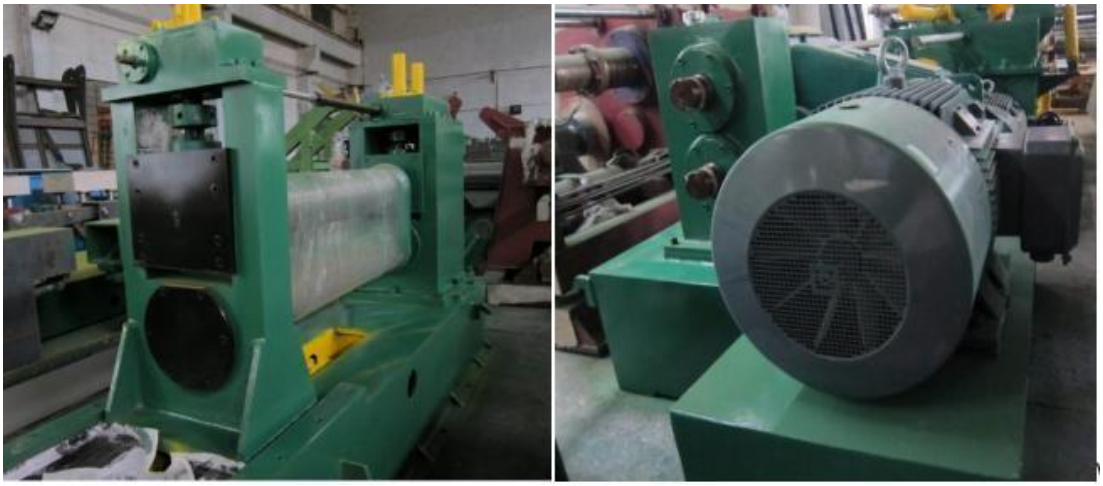
- 2m long 165m wide roll table, passive rollers Φ140x1850 are connected by sprockets and chains. The pinch feeding & leveling rollers send coil head passing over the roller table.

3.6 Aligning equipment

- Structure: vertical rollers to restrict the progressing position of strip, while horizontal rollers to press strip.
- Vertical rollers: three pairs, Φ90×125mm, high-frequency quenching
- Horizontally press roller: Φ100×1950mm
- Hydraulic cylinder for up-down moving of press roller: Φ80×100mm
- To adjust one side of vertical rollers by double lead screws with adjusting range: 600-1850mm

3.7 Disc Slitting Machine

- Structure: disc cutters circle double spindles tight, and the spindles installed on support stand.
- The spindle to install disc cutters: Φ220×1950mm
- Material of the spindle: 40Cr, forging and tempering, medium-frequency quenching, hard chrome
- plating, fine polishing.
- Disc cutter: D380×d220×T20/15mm
- Material of disc cutter: H13K, hardness after quenching HRC59～61°
- Driving style: 75KW DC motor, matched with speed reducer, gearbox and universal joint.
- Control on DC motor: American Parker 590 controller
- Pressing-down of shearing spindle: 2.2KW cycloid pin-wheel motor with worm gear box
- To change disc cutter: hydraulically (Φ63×450mm)driven, one stand of the disc shearer outward move until disc cutters can be installed
- slitting speed: ≤60m/min

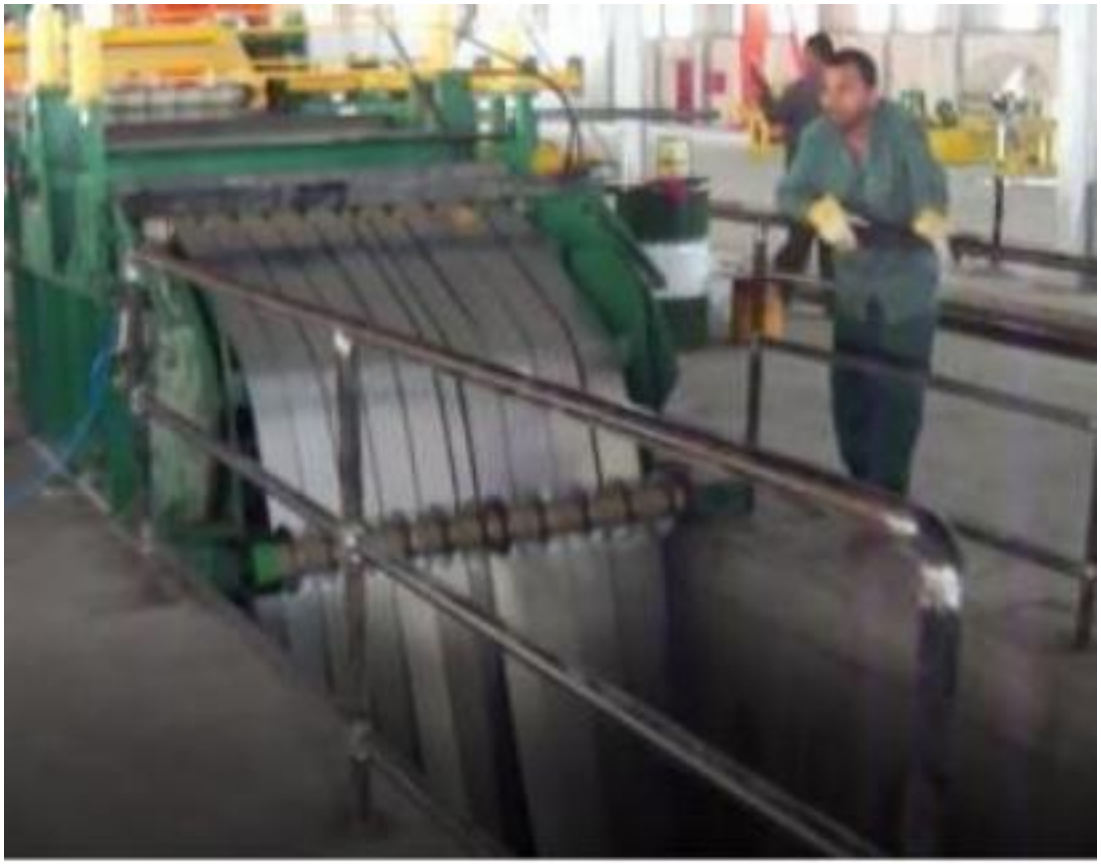


3.8 Scrap reeler

- Structure: two scrap reelers, with one on each side of the slitting line
- Each reel: Φ450×350mm
- Each reel is driven by L180 torque motor.
- Scrap-discharging style: hydraulically drive the scrap creel shrink, then can take scrap bundle down.
- Scrap collecting style: hydraulically drive the scrap guide rod to left-right move so as creels to wind up scrap in order.

3.9 Hole Accumulator

- Structure: hole with cement walls, one turnover plate to more or less cover the hole, so as to accumulate some strip in the hole.
- Hole dimension: 3mL×2.0mW×3mH
- Composition of turnover plate: to weld square steel pipes to set up a frame, lay wearable plastic plates on the frame; at the both edges, sliding roller respectively.
- Overturning movement of turnover plate is driven by hydraulic cylinder (Φ80×500mm)



3.10 Pre-separator and Tensioner

- Pre-separating shaft:Φ85×1950mm
- Pre-separating discs: Φ180×5mm, 65Mn quenching treatment
- Manually move outward the stand of one side up to be able to install pre-separating discs

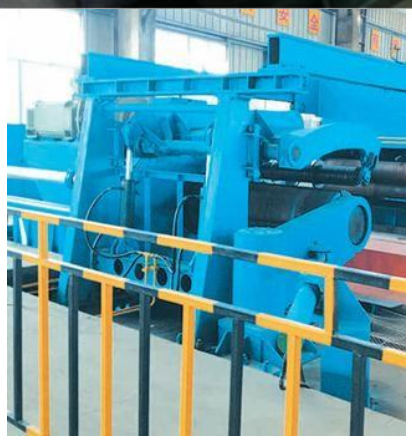
- A pair of horizontal press roller: Φ100×1950mm
- Hydraulic cylinder for up-down moving : Φ80×100mm, pcs
- Tensioning style: woolen pad style and five roller style
- Wool pad style: press the upper beam of tensioner stand down, put wooden plate and wool felt between upper and down beams. The pressing-down strength is by two Φ80×150mm hydraulic cylinders, and strength is adjustable.
- Five roller style: 2 over 3 roller structure, press-down strength is by two pcs Φ80×150mm hydraulic cylinders.
- Balanced length-measuring roller: Φ320×1850mm, hard chrome coating.


3.11 Recoiler and Portal Separator

- transmission by gearbox, expansion and clamping of recoiler is driven by hydraulic cylinder (Φ140×100mm) through slanting slider.
- Recoiling block: Φ508×1950mm
- Strength for expansion of recoiler: hydraulic cylinder Φ160×100mm.
- Hydraulic coils pusher: driven by hydraulic cylinder Φ80×1850mm, together with coils discharging car, push the slit coils out.
- The support bracket of recoiling shaft: steel structural component, hydraulic cylinder Φ80×350mm
- Strips-separating shaft: Φ85×1850mm

- Separating discs: Φ180×5mm, 65Mn quenching treatment 。
- Pressing-down of the separating shaft adopts portal frame by two pieces hydraulic Φ80×500mm, strength adjustable
- Recoiling power: DC 90KW motor



- DC motor control: Parker 590 controller Recoiling speed: max 60m/min
- Max recoiled coil weight: 10000kg

3.12 Coil-discharging car

- Structure: four wheels, car body by welding
- Driving motor:2.2KW cycloid pin-wheel motor
- Up-down movement driving: hydraulic cylinder Φ200×700mm
- Up-down moving distance: 700mm
- Max. loading weight:10000kg.

Hydraulic system

- One set of hydraulic station, control valves, oil pipelines Pressure : 16Mpa
- Power : 11KW-4（Ⅵ）
- Oil volume of oil tank : 450L Taiwan Vitory hydraulic valves

3.13 electric control

- Parker 590 DC speed controllers for DC motors of pre-leveler, slitter and recoiler.
- One set of electric control cabinet, two sets of manipulation panels. Schneider electric parts

3.14 User self-prepare:

General switch of electric power, electric wires, cables and conduits
Air supply system: Air source Q=0.9m³/min、P=0.8Mpa
Lubricating oil, hydraulic oil
guard rails

4.Inspection & Warranty:

4.1 Inspection

According to relative standards, customer inspects machine quality.

Inspection Standards

conditions	Number	Conditions	Number
Width tolerance	±0.15mm	OD of coils	Φ800～**1925**mm
Camber tolerance	±0.10mm/m	ID of coils	Φ508mm
Hump of recoils	≤0.5mm	Max. coil weight	Max. **10**000kg
Slitting weight of each figuring	Min. 1200T	Min. strip width	**32**mm

Scrap width of each side	3～8mm	Burs	Less than 5% of strip thickness
Max slitting number	0.3mm,12strips 3.0mm, 6strips	Surface quality	Without flaws like edge fold, angle fold, scratch, oil dirt, roller print, crease.

4.2 Warranty:

One year since commissioning, except for the machine problems caused by the customer faults.

5. Delivery, Installation & Commissioning

- Provide foundation drawing within a month after contract validation; delivery time: 150 days; Installation & commissioning: 25 days

- Usually we send two engineers to direct installation and commissioning of the slitting line, the buyer should buy round-trip tickets for them, provide food & accommodation as well as local transportation to our engineers, and give each engineer 150$ per day for their technical service.
- Technical documents

  Provide instruction and operation manual, foundation drawing, layout drawing, vulnerable part drawings, hydraulic system schematic drawing, electric circuit drawing before or when machine is delivered.

6. Provision of Accessories with the slitting line

Disc cutters : D380×d250×T15mm, material: H13K, HRC59-61°, 22pcs

Disc separators : D180×d85x 5mm, material: 65Mn quenching treatment, 35pcs Complete length of rubber sealings : 3,100mm

Complete length of separating nylon spacers : 4600mm. 5pcs 1m^2 wool felts

Complete sets of steel cutter spacers : D280 x d250

Spacer thickness				
1mm	1.6mm	3mm	8mm	0.95mm
1.2mm	1.7mm	4mm	9mm	1.1mm
1.3mm	1.8mm	5mm	10mm	40mm
1.4mm	1.9mm	6mm	20mm	50mm
1.5mm	2mm	7mm	30mm	
The quantity of above thickness of cutter spacers: 15pcs for each size.				