

MACHINERY

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TSUN Machinery Group

TSUN Machinery Group has delivered machines, tools, and expertise to the world's heat exchange manufacturers and tube processing industries. Heat exchangers are an integral part of air conditioning, heating, refrigeration, and air handling units. Plumbing, appliance, automotive, and tube component producers use TSUN tube processing machinery and tooling.

TSUN Machinery Group designs and produces high quality fin dies, fin lines, tube expanders, tube cutoff machines, tube bending equipment, and coil forming units.

We guarantee that our machines are finished, thoroughly tested, and most importantly, will function properly upon installation in your factory and throughout its production history.

Tube Processing

- Hairpin Bender
- Saturn Size and Ring Machine
- Straight Tube Cutoff
- Size Machine
- Return Bend Cleaning Unit
- Return/Elbow/Crossover Bender
- Mechanical Return Bender

Fin Processing

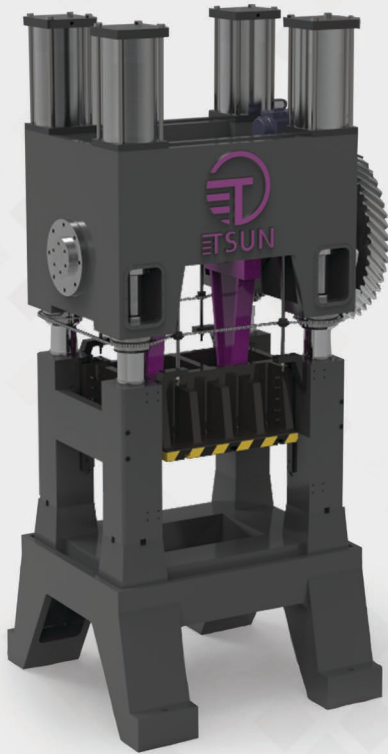
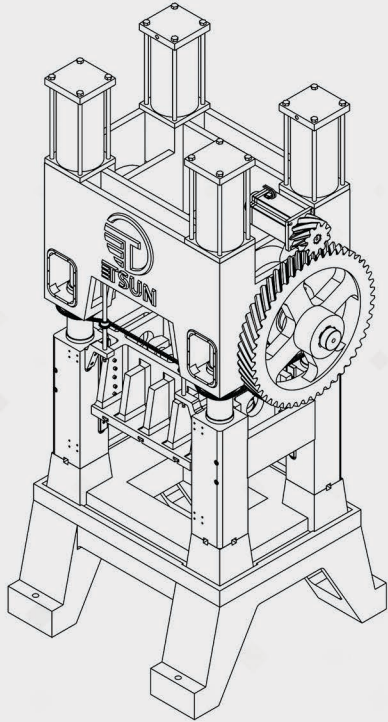
- Fin Presses
- Fin Line Equipment
- Fin Dies

Coil Processing

- Portable Expander
- Horizontal Progressive Expander
- Vertical Mechanical Expander
- Coil Form Machine

Spare Parts

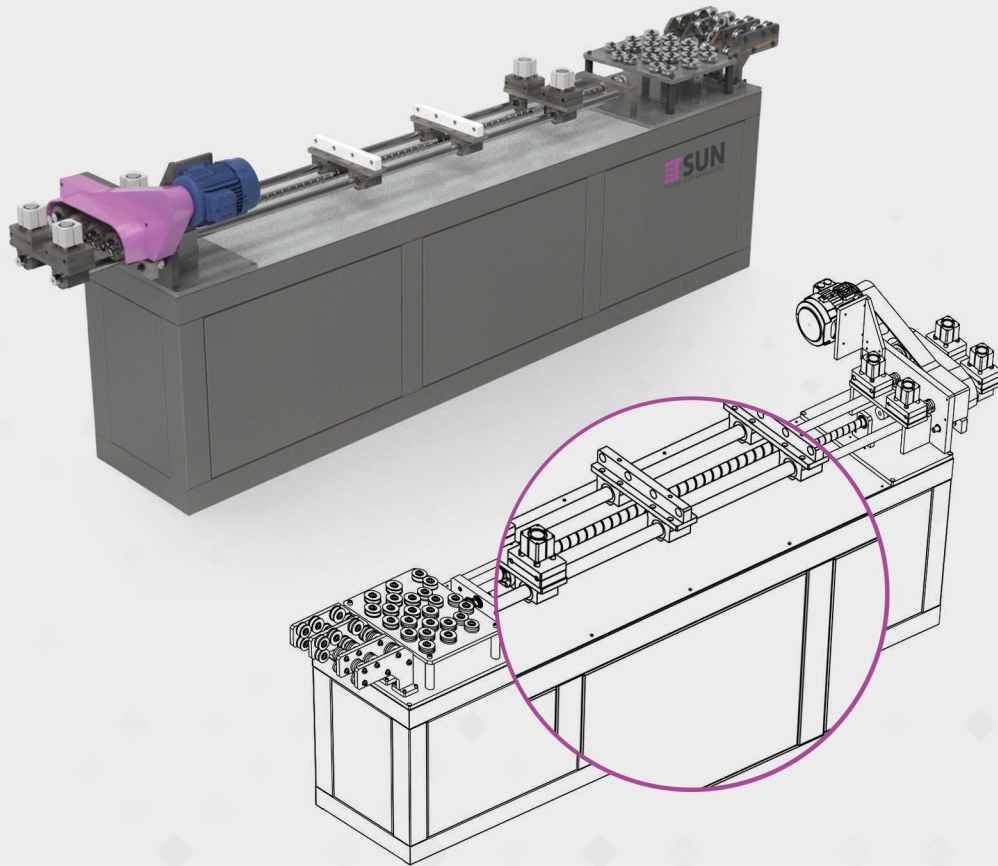




Servo Press

Type	H-Frame with 8 slide guide (Fixed eccentricity)
Dimensions	1360x1650x3210mm
Weight	8T
Stroke Force	630 kN
Stroke Length	50mm
Speed	130-250s/min
Height Adjustment	Up to 250mm
Open Height(max)	425mm
Number of Guide Pillars	4
Main motor	7.5kW servo
Bolster Size	750x800mm
Stroke Force	630 kN
Bolster Size (max)	750x1315mm
Air Pressure	5-7.5bar
Hydraulic Pressure	120bar

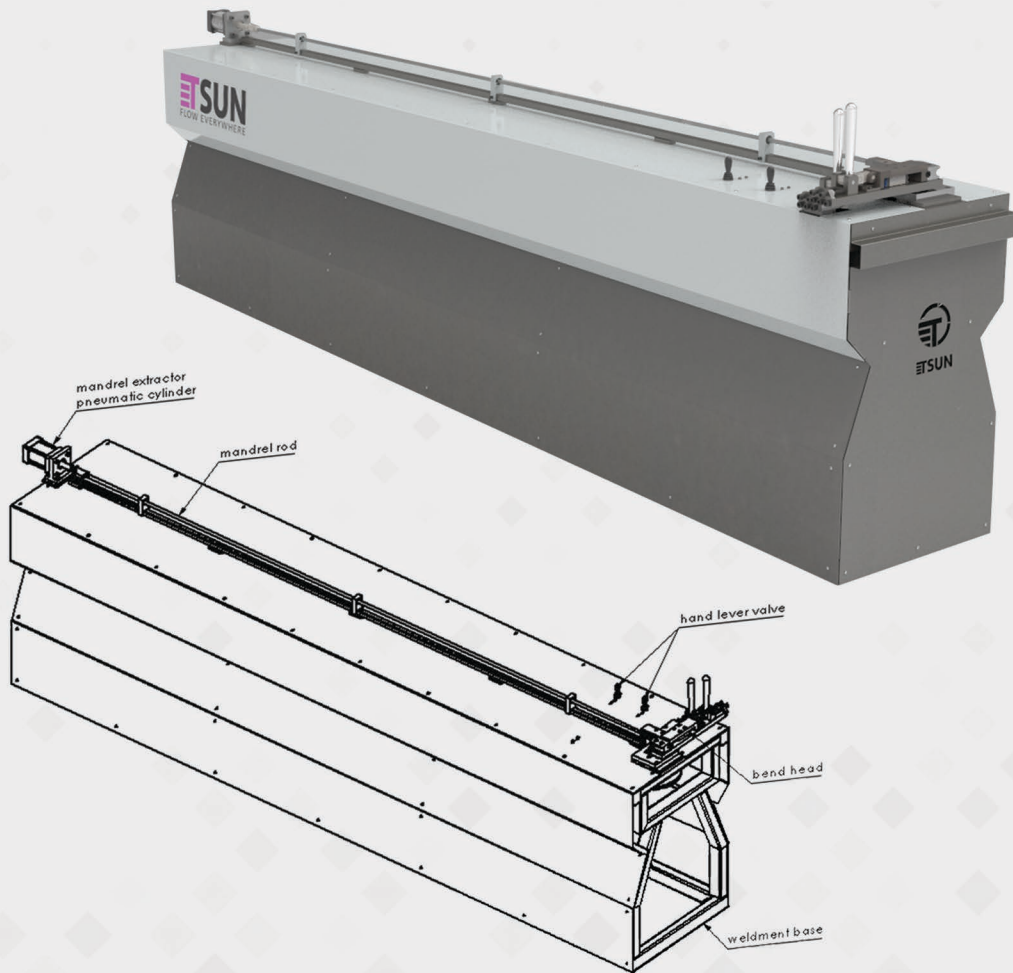
Copper Tube Straightener



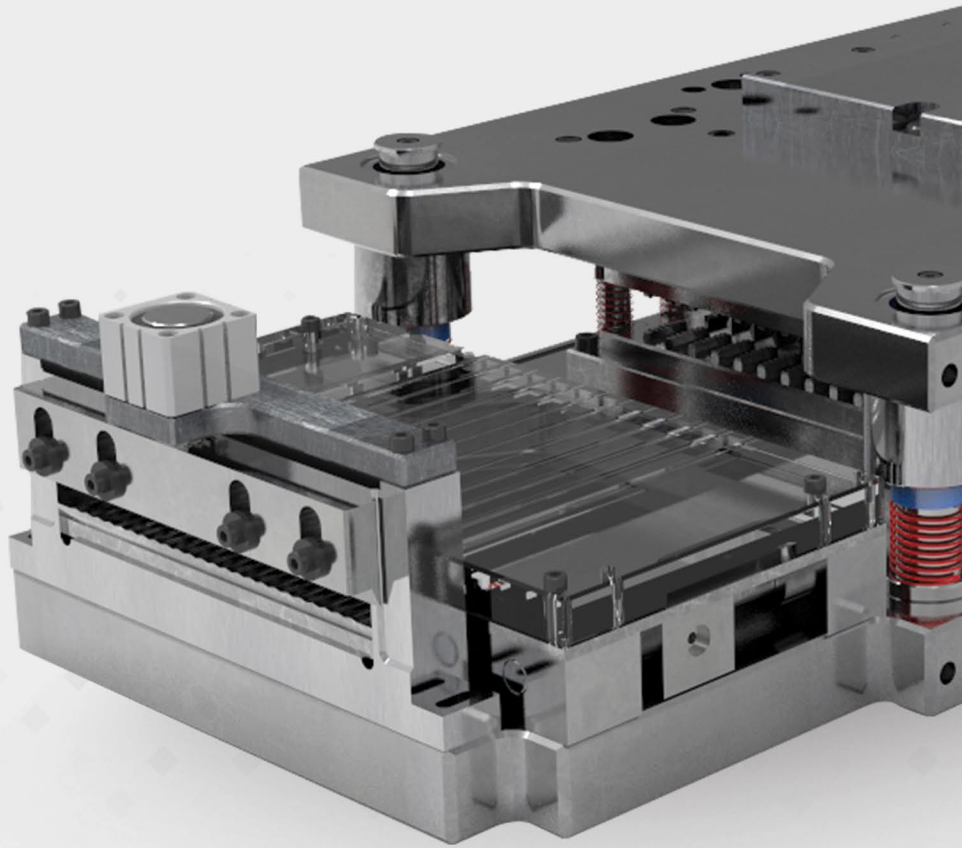
Dimensions	740x1240x3550mm
Weight	600kg
TubeSize	3/8, 1/2, 5/8in
Feeding Drive	Servo motor
Feeding Speed	16m/min
Cutting type	Burrless Cutting (With No Material Removal)
Cutting Speed	3s
Tube per Cycle	4

Hairpin Bender

The TSUN manual hairpin bender is a bender that was designed to help produce tight bends in heat exchanger tubing without the space issues and expense of a full blown automatic hairpin bender.

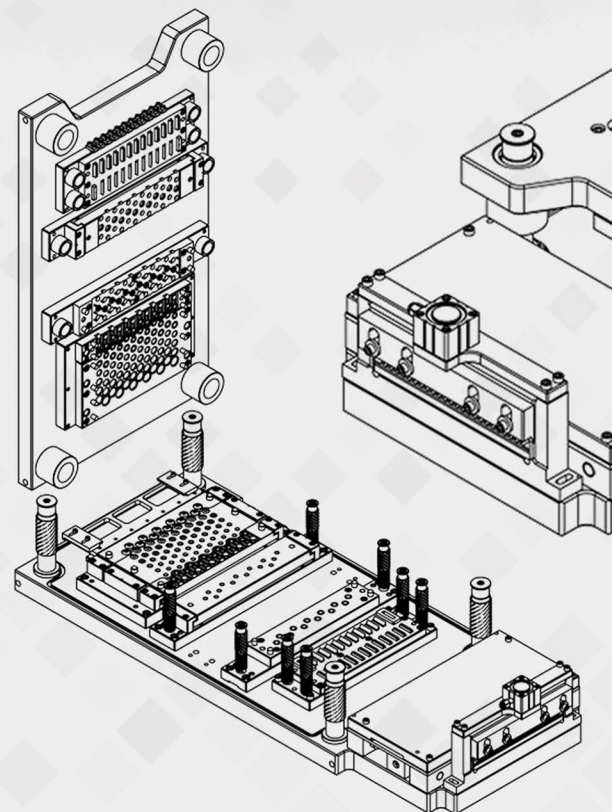


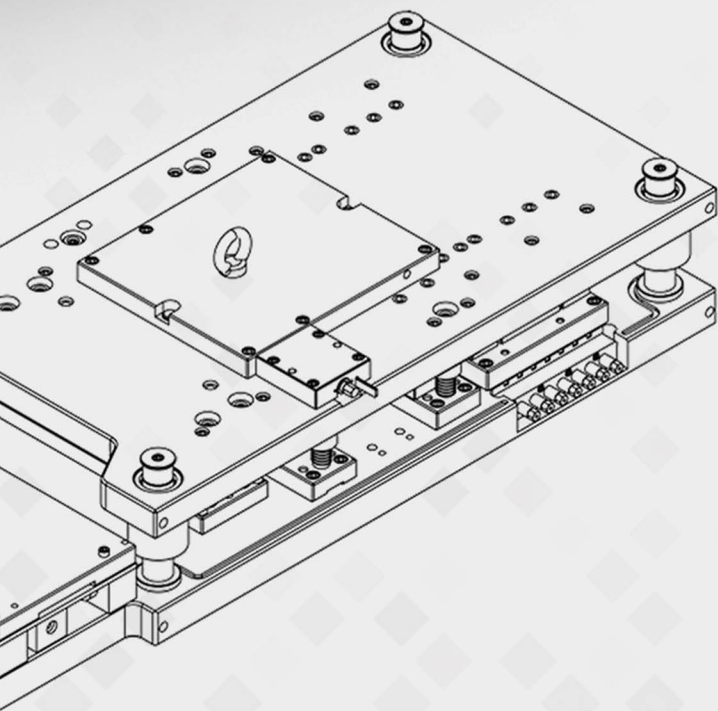
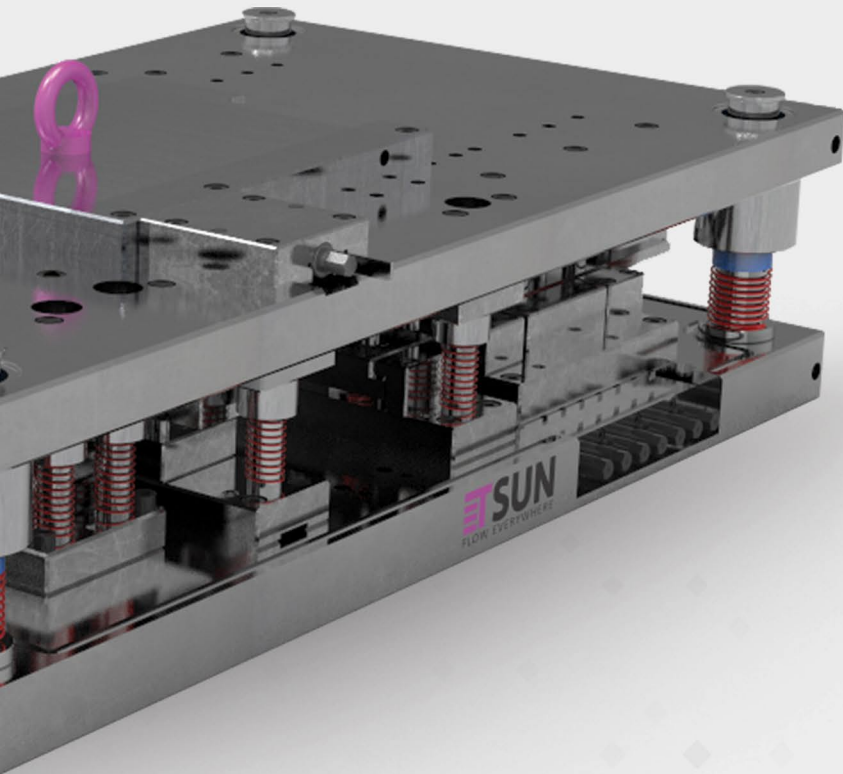
Tube Diameter	9.52, 12.7, 15.87mm
Number of Tube Per Cycle	1
Cycle Time	15s
Driving System	Pneumatic Cylinder
Bending Length	3m
Pneumatic Hairpin Bender	



FinDie

TYPE DIE	ribbon
Fin shape	V wave
Number of rows	6-8-12-24
Pattern	staggerd pattern
Hole size	5/16-3/8-1/2-5/8
Material	8006,8011,O temp or H22,H24
Fin stock thickness range	0.1mm-0.300mm,

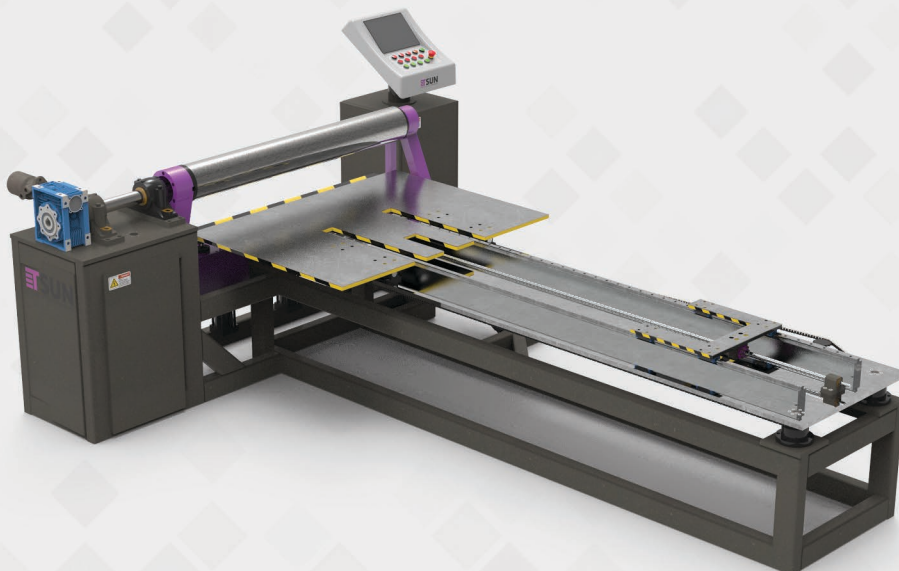




Material width	815mm
Collar height range	1.2-12 mm
Reflare	individual adjustment for full range of collar heights.
Collar base	provided
Slitter blades	slitter position in each row with quick change; plain blades with changing tooling.
Feed	internal hitch finger pull type
Standard production rate	150-220 strokes per minute.

Coil Bender

Dimensions	1300x2200x4000mm
Weight	1.5T
Maximum Length of Coil	3m
Maximum Width of Coil	120cm
Bending Layers	Up to 3
Control Type	CNC
Bending Shape	L, U, G
Bending Time	L:30seconds U:40 seconds G:60 seconds
Bending Radius	82mm
Bending Angle	Adjustable
Pipe Diameter	3/8in
It has an adjustable automatic table	
Hydraulic Pressure	170bar
Power	3kw
Power Supply	3 Phase AC380V/550Hz



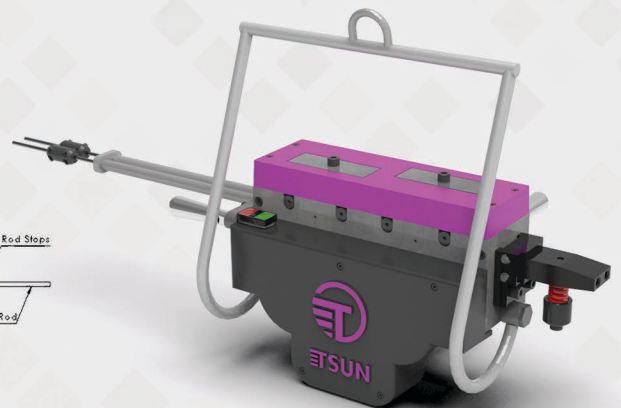
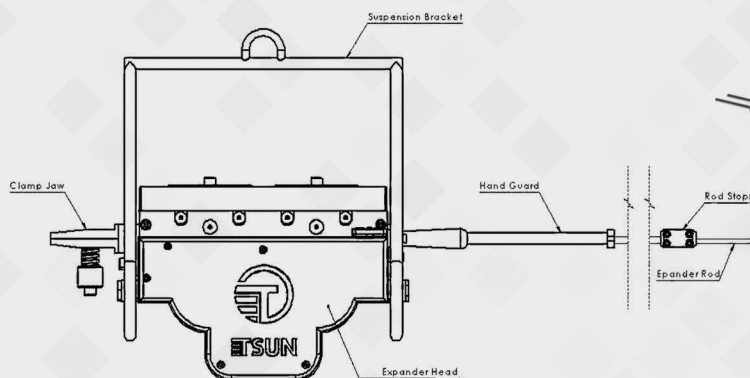
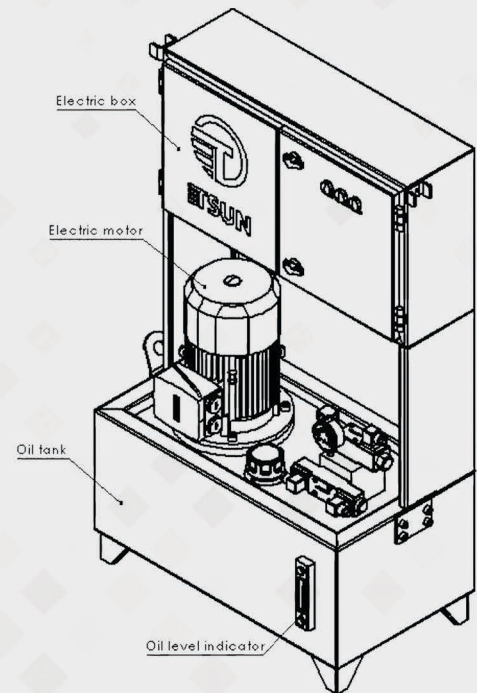
Portable Tube Expander

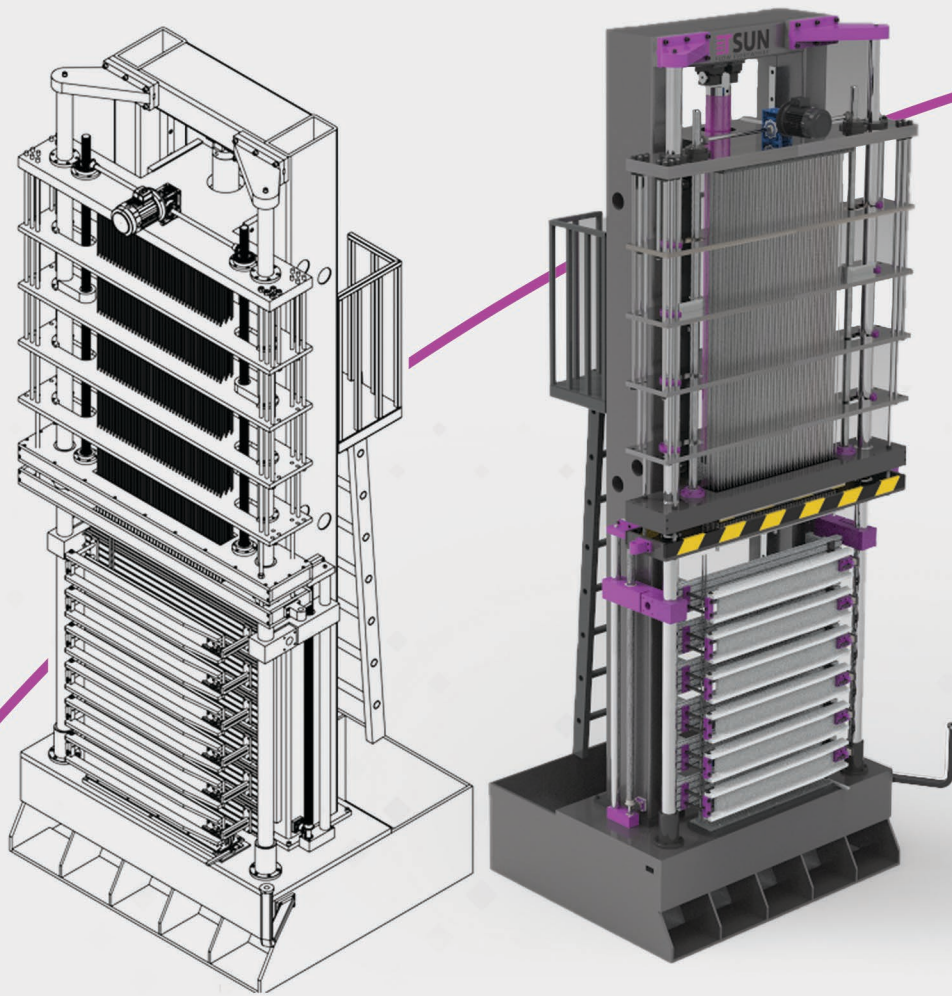


The TSUN Portable Tube Expander is hydraulically powered mechanical expander designed for expansion of heat transfer coils (designed to expand two tubes per cycle).

Each portable expander is designed for a specific tube outside diameter and center-to-center dimension and includes the hydraulic unit, drive head and tooling.

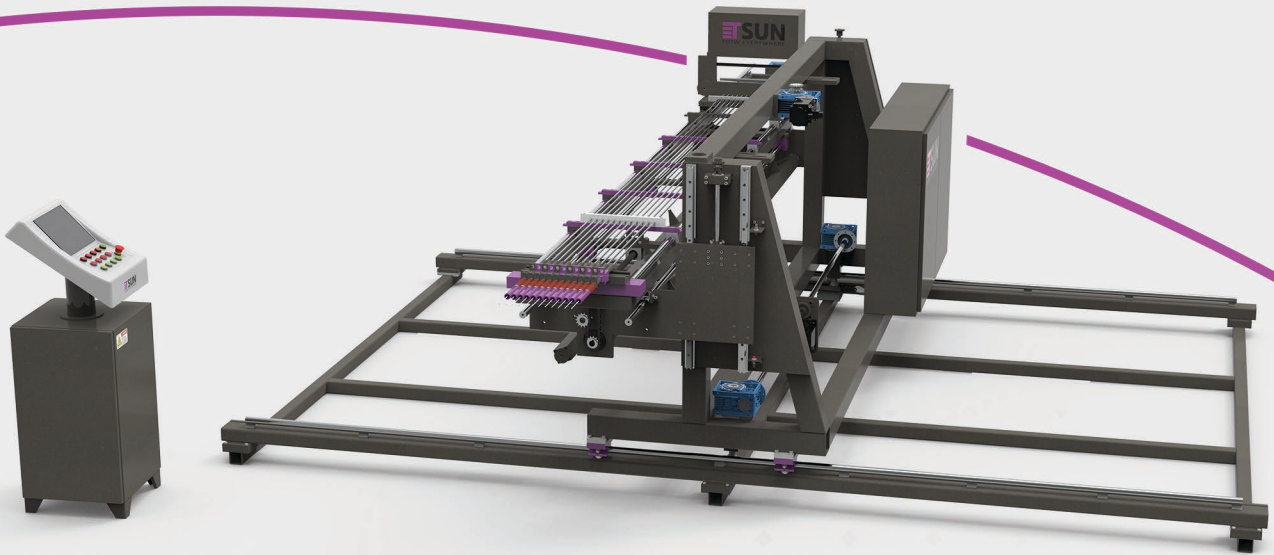
Tube Diameter	9.52, 12.7, 15.87mm
Tube Material	Copper, Aluminum, Other thin-wall materials
Tube Per Cycle	2
Tube Center to Center	25,38,40,45,50mm
Expansion Speed	8 m/min





Vertical Expander

Dimensions	2000x2250x5400mm	Copper Pipe Diameter	9.52mm
Weight	9T	Pitch (Hole Distance)	25mm
Pump Capacity	40lit/min	Equipment Color	Gray
Power	22kW	Power	10kW
Hydraulic Pressure	Max: 170bar Min: 120bar	Power Supply	3Phase AC380V/50Hz
Expansion Force	200kN	Oil Cooling	1.7m ³ /h
Expansion Speed	Fast: 5.3m/min Slow: 0.88m/min Return: 9.54m/min		
Expansion length	1200mm		



Horizontal Progressive Expander

uses small bore hydraulic cylinders to expand heat exchange coils with little damage. Tension expanding either straight lengths or both legs of hairpin tubes provides uniform results with no fin damage. These machines are versatile and can be set up for different coil configurations in just a few minutes. They are also capable of providing high expansion forces for expanding stainless steel and other exotic tubing materials.

Production

70' (21 m) / min
(single hairpin running light wall copper)
Additional cylinders will reduce the speed.

Tube Spacing

.63" (16 mm) minimum distance
between tubes

Footprint

Support Table: 78" (1.98m) wide x 66" (1.7 m) long
Max coil length: 20' (6 m) long

Tubing Diameter

0.312" (8mm) to 1" (25.4 mm) OD

Tubing Material

- Copper (Cu)
- Aluminum (Al)
- Stainless Steel (SS)
- Cupronickel (CuNi)



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