

## Cold machining machine set



product name: Gear milling production line

Category: Bi-metal Band Saw Units Whole Set Machines -> Cold machining machine set

product No.: 01

Products Made: Dalian·China

### Note:

This production line consists of discharging tower, guiding rack, principle machine, saw band carrier and saw band tower-type receiver. It is attached with electric sequence control cabinet, hydraulic station, circulating water tank and digital control cutting tool grinder. It can complete the gear milling function of 20 saw bands (single tower) and 40 saw bands (double tower) at the same time. Gear milling accuracy: the tolerance of tooth point parallelism and the precision of tooth meshing are all less than 0.06mm.



product name: Cleaning production line

Category: Bi-metal Band Saw Units Whole Set Machines -> Cold machining machine set

Products Made: Dalian·China

Note:

In order to remove the oil film of band billet and the defilement on the saw band surface in the course of gear milling, the cleaning production line uses the al-kali lye prepared proportionally and constant temperature rinsing to remove the defilement on the saw band surface. At the same time the saw band surface is dried by high pressure hot air. The running of the saw bands are driven by the charging and discharging plates which respectively located on the beginning and the end of the production line. The production efficiency is 2.5— 4m /min.



product name: Saw band separating production line

Category: Bi-metal Band Saw Units Whole Set Machines -> Cold machining machine set

product No.: 03

Products Made: Dalian·China

Note:

The saw band orientation function can be implemented by the saw band separating production line. The setting slanting saw band separating, alternating saw band separating and waveform saw band separating. The tolerance of the separating precision is less than  $\pm 0.02\text{mm}$ . The production efficiency is 3—4m/min.



product name: Sand blasting production line

Category: Bi-metal Band Saw Units Whole Set Machines -> Cold machining machine set

product No.: 04

Products Made: Dalian·China

Note:

The sand blasting production line consists of discharging plate, principle machine of liquid sand blasting, drier, tractor, code sprayer, oil impregnator and charging plate. It is attached with air compressor, circulating water tank in order to improve the pressure of the sprayer nozzle and the solvent in cooling tank. It can finish the multi process function of automatic sand blasting, automatic marking, automatic painting of the rust proof oil and automatic charging and discharging.



**product name: Digital control cutting tool grinder**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Cold machining machine set**

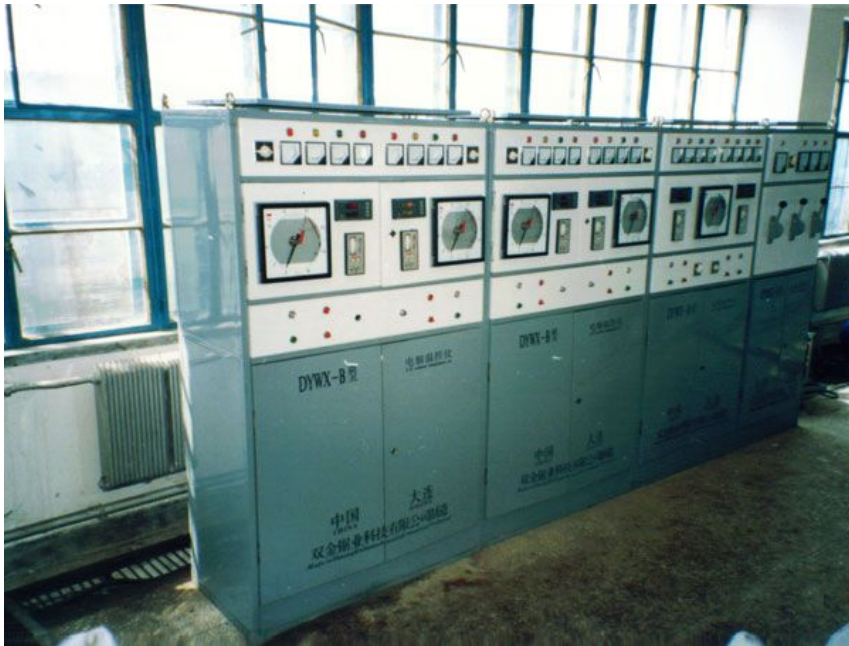
**product No.: 05**

**Products Made: Dalian·China**

**Note:**

**The grinder is the universal digital control gr-inder for hob. The max. machining diameter is 250mm. It can machine 1-99 hob recesses. The lead of screw recess is 300mm-∞. The machine is SIEMEN-S810T s-system and can work for the circulation of au-tomatic grinding by inputting the work piece parameters. The parameters of the gearing milling hob used by this machine set are: diameter is 160mm, recess number is 16-24, lead is about 2600 -3000mm. They are all co-vered in the range of the parameters of universal equipments.**

## Heat treatment machine set



**product name: High precision automatic temperature control cabinet**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Heat treatment machine set**

**product No.: 001**

**Products Made: Dalian·China**

**Note:**

**System configuration: XTMA – 1000 Type precision automatic temperature control meter, ZK trigger, thyristor modules, AC contactor, isolating transformer, voltage meter, ammeter etc. The system is mainly used for the zoning automatic temperature control of the heating furnace, box-type tempering furnace and hood-type tempering furnace of the heat treatment machine set. This set of system can also be used for the research and production in the field of machinery, chemical industry, plastic, paper making, food, pharmacy. It can separately control the single temperature zone, signal furnace body, big span temperature zone and different temperature zone. The functions of high precision measuring indicating, over temperature alarm, process power-off protection are set in the system.**

**Input mode: thermocouple B, S, K, E, T**

**Range of temperature control: 0°C – 1600°C**

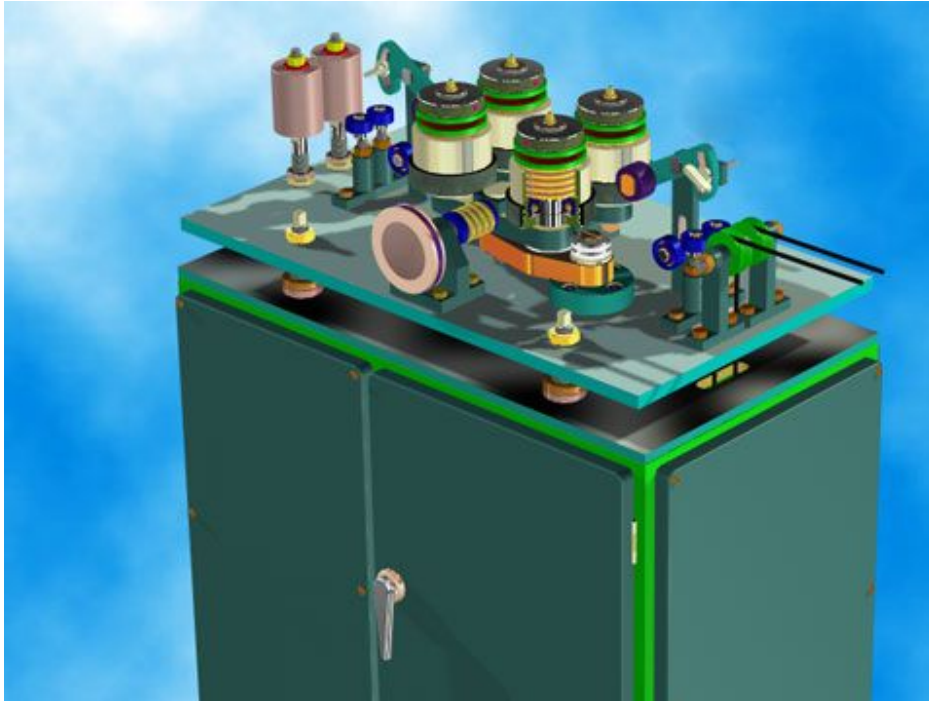
**Control precision : 1% (1250°C±1°C)**

**Max. output current: 100A、200A、300A**

**Sampling period: 0.5s**

**Regulation of PID function.**

**Ambient temperature : -40°C – +50°C**



**product name: Electromagnetic damper**

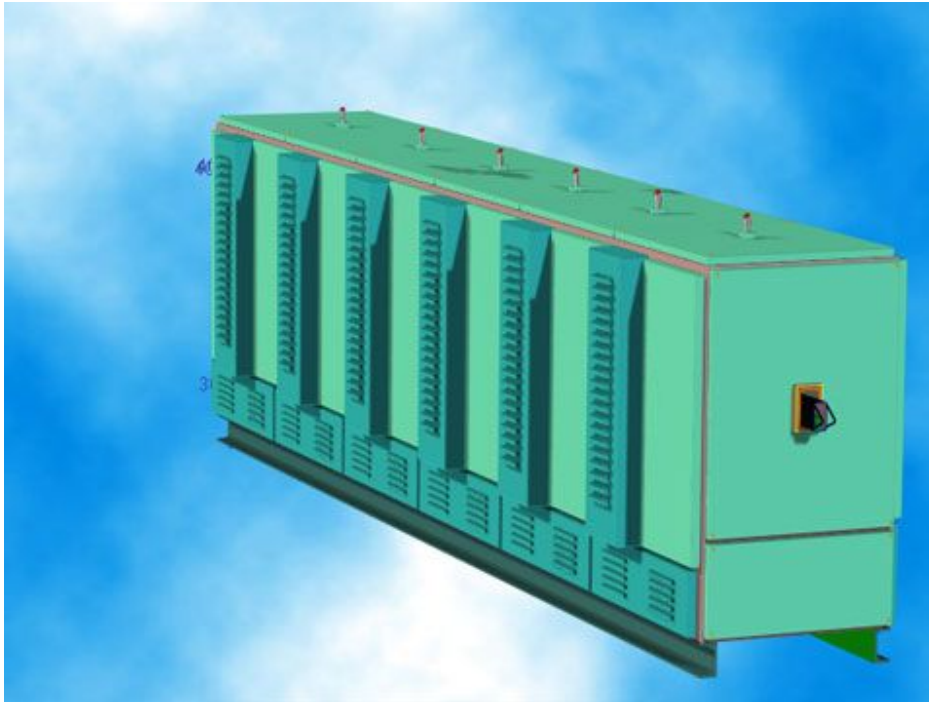
**Category: Bi-metal Band Saw Units Whole Set Machines -> Heat treatment machine set**

**product No.: 002**

**Products Made: Dalian·China**

**Note:**

**The electromagnetic damper is the individual equipment before the saw bands go into the heating furnace. It forms a pair of pair forces with the tractor to adjust the proper damping moment and the deformation of the saw band that results from the factors of deadweight of the saw band and heating elongation can be controlled.**



**product name: Heating furnace**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Heat treatment machine set**

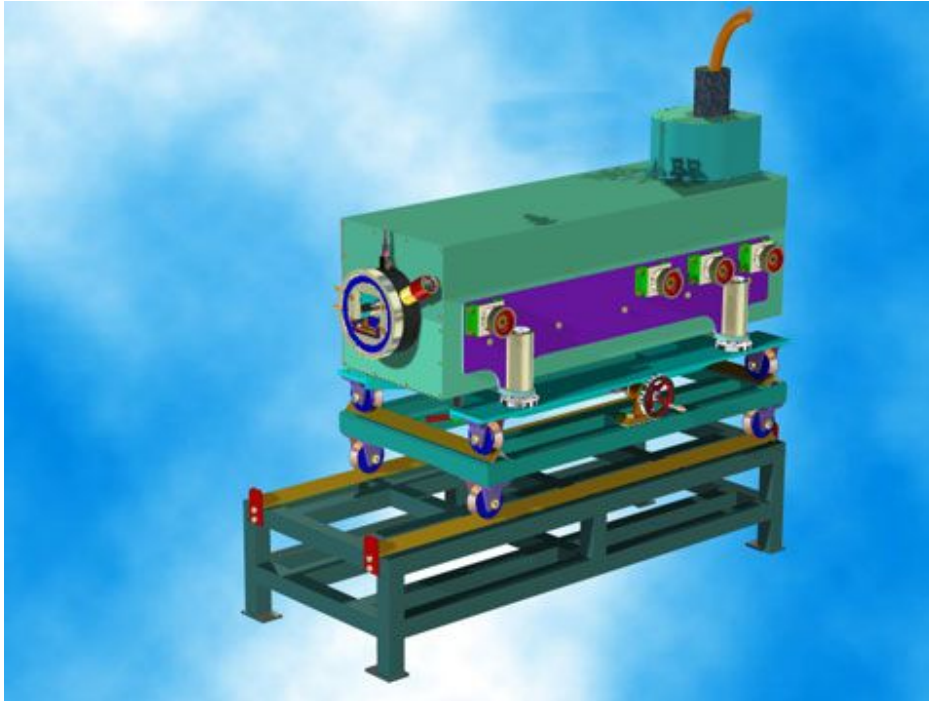
**product No.: 003**

**Products Made: Dalian·China**

**Note:**

**The molybdenum silicon bars of 72 groups are used to be the heating elements in the heating furnace. They are installed into the furnace cavity from the top of the furnace by means of side setting method. There are six gradient heating zones within 5 meters. When the heating elements have troubles, the repair work can be done without stopping the equipment. It avoids the disadvantage of traditional heating elements that are wound resistance wires and have to stop the equipment when the repair work is done. Function parameters: rated power 64KW, long-term using power is 25 KW, rated temperature 1350C, long-term permissible working temperature: 1250C, accuracy of temperature controlling is  $\pm 1C$ .**





**product name: Chiller**

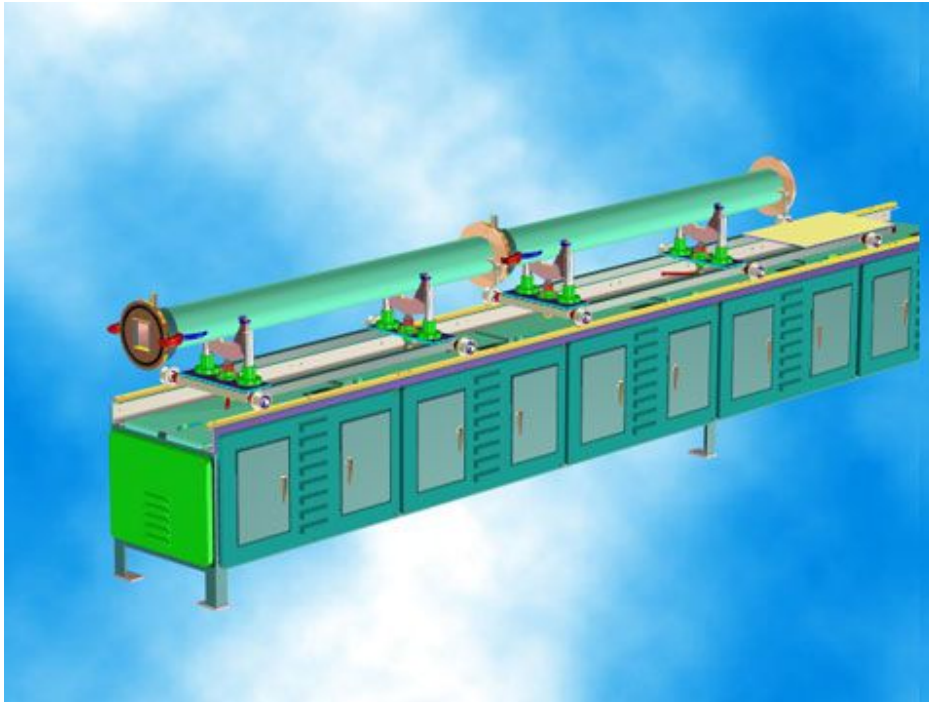
**Category: Bi-metal Band Saw Units Whole Set Machines -> Heat treatment machine set**

**product No.: 004**

**Products Made: Dalian·China**

**Note:**

**The chiller is the key quenching equipment for the saw bands. It is driven by the multi-folding refrigerating machine set. The opening of the chilling plate in the chamber of the equipment can be adjusted. It is back and forth section and grading quenching and pre-precision adjustment to meet the requirements of different quenching process curves. The nitrogen injector is installed at the entry to realize the instantaneous partial rapid cooling for the high speed steel teeth of the double metal saw bands.**



**product name: water-cooling jacket**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Heat treatment machine set**

**product No.: 005**

**Products Made: Dalian·China**

**Note:**

**The back and forth watercooling jackets and the back and forth watercooling clamping plates of the machine set are respectively the classifying cooling equipments of different process points for the saw bands. The design construction and the adjustment of water flow controlling are set for accurately completing the quenching process parameters of the saw bands finally.**



**product name: Tempering furnace**

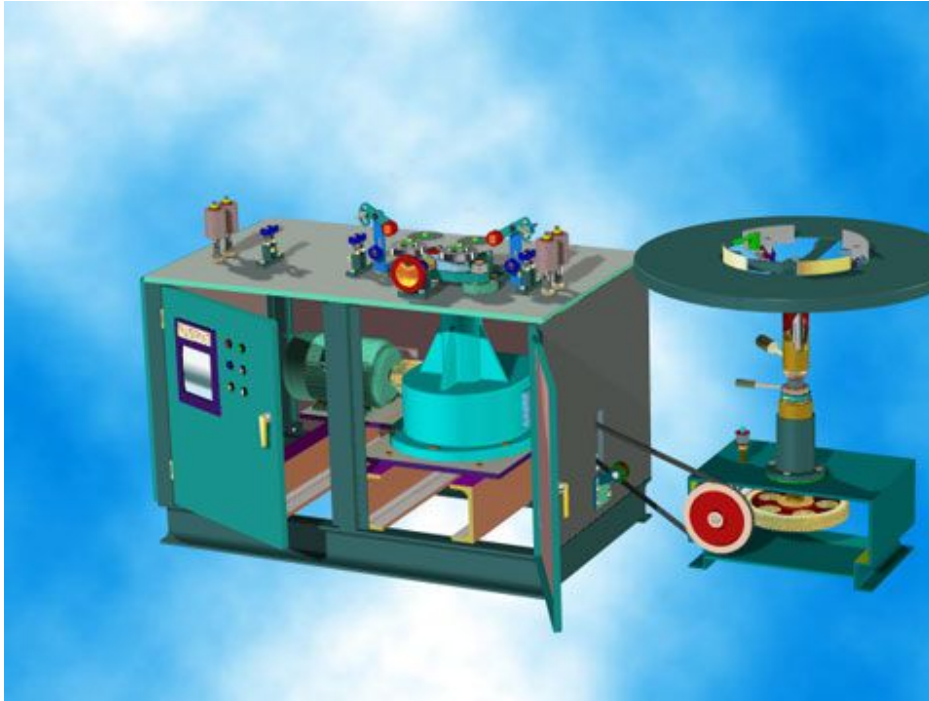
**Category: Bi-metal Band Saw Units Whole Set Machines -> Heat treatment machine set**

**product No.: 006**

**Products Made: Dalian·China**

**Note:**

**The whole length of the box-type tempering furnace is 5 meters. It is heated with two zones. The rated power is 25KW. The rated temperature is 650C 600C is the long-term permissible working temperature. The accuracy of temperature controlling is  $\pm 1C$ .**



**product name: Tractor**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Heat treatment machine set**

**product No.: 007**

**Products Made: Dalian·China**

**Note:**

**The tractor is the power supply for running the saw bands. The saw bands of different specifications require different running speeds at a certain temperature. The tractor uses the variable speed excitation motor to realize the infinitely variable speed.**



**product name: Hood-type tempering furnace**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Heat treatment machine set**

**product No.: 008**

**Products Made: Dalian·China**

**Note:**

**The hood-type tempering furnace will finish the last process of saw band heat treatment. The furnace uses gas exchange method to fill the nitrogen, cooling with circulating water, mixing with blower fan and automatic temperature control to finish the work. Rated power is 40KW. Rated temperature is 650C. Permissible long term working temperature is 600C.**

## **Welding machine set**



**product name: Straightening production line**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Welding machine set**

**product No.: 0001**

**Products Made: Dalian·China**

**Note:**

**Part of the perform saw bands have different level bending problems in the side surface after several processes of cold machining and heat treatment. The straightening production line straightens the saw bands by orienting rolling the side surfaces. The principle machine of this production line is 12T hydraulic straightener and can straighten single saw band or whole coil of bending saw band. The charging and discharging plates will be added at the entry and exit of the straightener to assist the straightening of whole coil of saw bands.**



**product name: Butt welder**

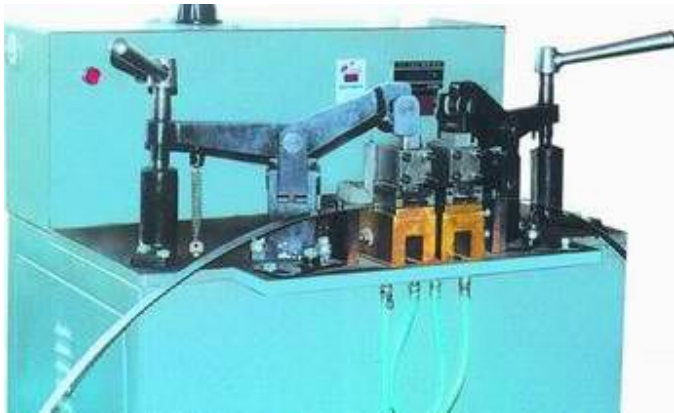
**Category: Bi-metal Band Saw Units Whole Set Machines -> Welding machine set**

**product No.: 002**

**Products Made: Dalian·China**

**Note:**

**The welder will automatically weld the two saw bands and doesn't need any welding materials and filling materials. It is the necessary equipment to form the looptype saw bands. The machine has various big and small models. They are respectively matched with the welding of wide and narrow saw bands.**



**product name: Weld tempering equipment**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Welding machine set**

**product No.: 0003**

**Products Made: Dalian·China**

**Note:**

**The general welders have the weld tempering function for the saw band. This set of machine is separately designed and matched special weld tempering equipment and can make the saw bands in batch quantity work in the assembly line. The tempering stability exceeds the tempering function of the butt welder and the using cost has been largely reduced.**





**product name: Weld grinder**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Welding machine set**

**product No.: 0004**

**Products Made: Dalian·China**

**Note:**

**The butt welders are all equipped with welder grinders. The rejected products can easily be made because of the single using function, unstable operation. This set of machine is separately designed and matched with suspending translating grinder. The advantages are convenient operation, bigger coverage, labor saving and time saving. It is the unique machine set in China.**

## Metering and testing equipments



**product name: Universal test equipments for saw bands**

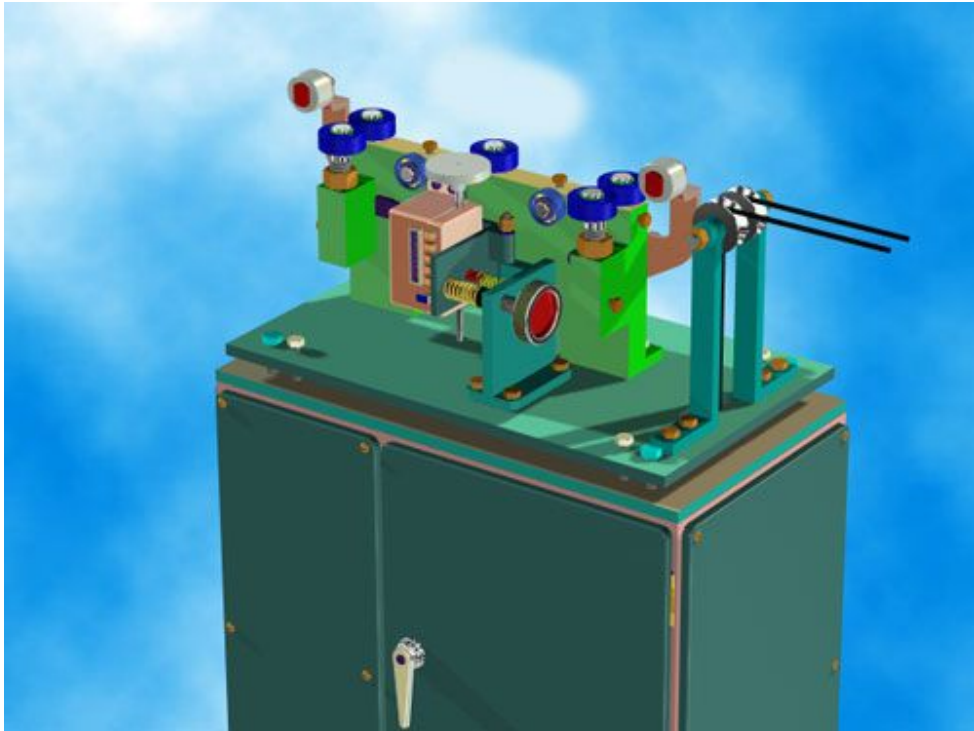
**Category: Bi-metal Band Saw Units Whole Set Machines -> Metering and testing equipments**

**product No.: 00001**

**Products Made: Dalian·China**

**Note:**

**It is necessary to make metallographic structure test and physical property test in the course of saw band production and finished production. The testing department of the company is equipped with universal inlaying equipment (XQ – 2A), pre grinder (M-2), polisher (P-1), metallographic microscope (4XA[100-1250]) and Vickers hardness meter (HV-10A) in order to verify the correctness of some process parameters and select high quality acceptable production to put on the market.**



**product name: Counter**

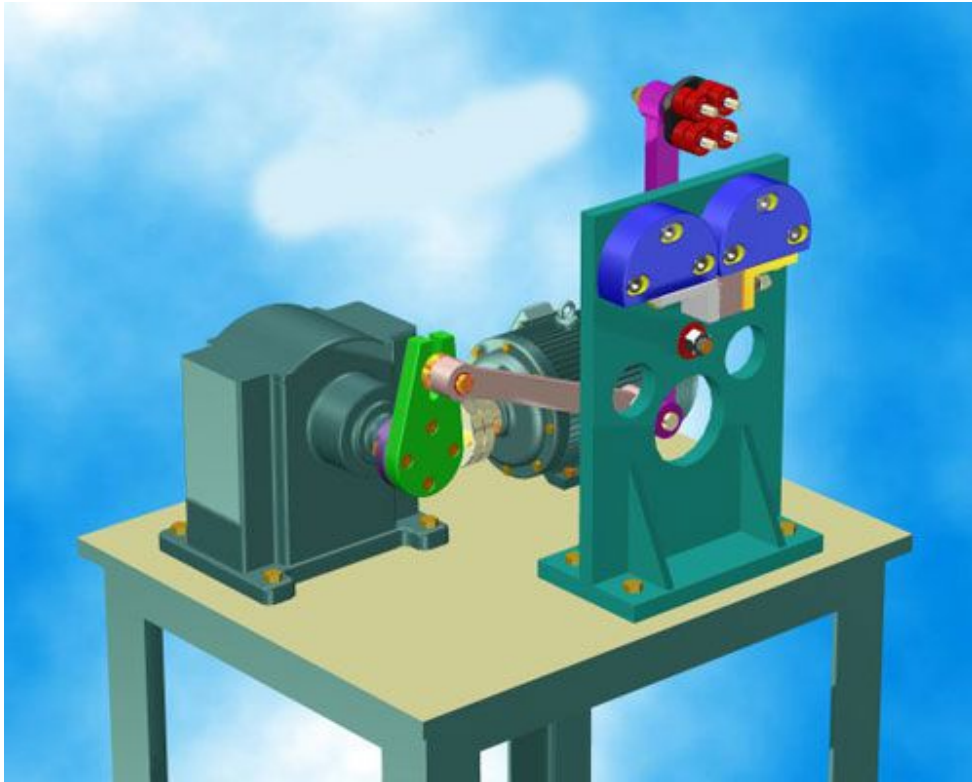
**Category: Bi-metal Band Saw Units Whole Set Machines -> Metering and testing equipments**

**product No.: 00002**

**Products Made: Dalian·China**

**Note:**

**The counter is used to measure the length of the saw band. It is usually fixed in the full automatic heat treatment production line. It also can make measurement in the sand blasting production line, straightening production line and when the billet is put in storage and sent out of warehouse.**



**product name: Multi bending tester**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Metering and testing equipments**

**product No.: 00003**

**Products Made: Dalian·China**

**Note:**

**This tester uses crank rocker mechanism to drive the saw band multi bended in fixed point, automatically recording and work stopping while saw band broken. It is the special equipment that detects the partial fatigue strength of the saw band and the saw band weld.**



**product name: Fatigue tester**

**Category: Bi-metal Band Saw Units Whole Set Machines -> Metering and testing equipments**

**product No.: 00004**

**Products Made: Dalian·China**

**Note:**

**The tester is five-roll intersecting distribution. The curvature radius of driven sand disk is 75mm. The additional tension of the saw band is 200kg. It is equipped with 45° angle distortion equipment for saw bands. It can automatically record, stop working while saw bands broken and efficiently simulate the sawing condition. It is the special tool for testing the fatigue strength of saw bands.**