
Technical proposal and specification

1. Profile

Flying cold sawing is a new online cutting technology in H.F. welded tube industry. Compare with the friction heat saw, its most major characteristic is the cold milling principle. The end of the tube is smooth and without burr after cutting off. For high quality requirements, there is no need off-line second treatment. In addition, due to the use of servo tracking technology, cutting length accuracy is higher than the traditional computer flying saw. Dust and noise pollution are obviously reduced in the production process.

2. Equipment Specification

2.1 General

2.1.1 Kaikong type and picture: KK-5-50

2.1.2 Scope of application: Carbon steel, Q235
and under.

2.1.3 Pipe specification:

Round: 3/4", 7/8", 1", 1-1/4", 1-1/2"

Square and: 7/8", 1", 1-1/4", 1-1/2", 1-3/4", 2"

Rectangle: 2"x1", 1-1/2" x 1/2"

Wall thickness: 0.6 ~ 1.5mm

Inside bead NOT removing.

2.1.4 Mill line: Direction from ____ to ____; Height from bottom to ground ____mm; Height from bottom to platform ____mm.

2.1.5 Max. line speed: 120 m/min.

2.1.6 Cutting length: 1 ~ 104.8 meters.

2.1.7 Length precision: $\pm 1.5\text{mm}$ (line speed fluctuating less than 2%)

2.2 Electric Description

2.2.1 Power supply: AC440V, 60Hz

2.2.2 Driving motor: servo motor 11kw/1500rpm, from YASKAWA, Japan.

2.2.3 Feeding motor: servo motor 2.9kw/2000rpm, from YASKAWA,
Japan.

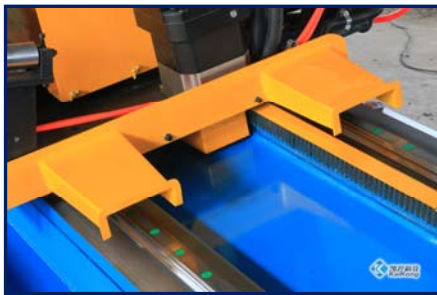
2.2.4 Blade motor: AC motor 7.5kw/1460rpm, with inverter from
YASKAWA, Japan.

2.2.5 Length measurement: 2500 pulse encoder. IP65 waterproof and dustproof from Koyo.

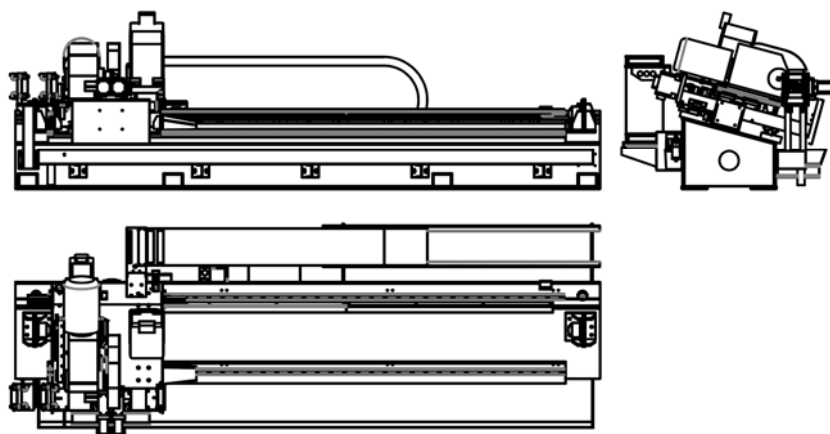


- 2.2.6 Control cabinet: 2200*800*600mm, Operating desk: 1100*900*700mm.
- 2.2.7 Driving axis run a E-CAM curve. Float home point of saw platform. Customer can set home point according to the length of tube. Fixed back point of saw platform for section receiving.
- 2.2.8 Saw blade automatic tool setting. The feeding axis detects the blade diameter automatically, without manual measurement.
- 2.2.9 Support up to 10 length groups and online changing the group. Max setting length 104.8m.
- 2.2.10 Via expand the system I/O points, meet the customer requirement of sort, packing of the pipe.
- 2.2.11 Supervise real-time production data via APP software by mobile phone. The customer can check saw states at anyplace. Support OPC Server in Windows desktops operating system. So the pipe production data can be interconnected with facture ERP system.

2.3 Mechanical Description



- 2.3.1 Machine dimension: 4500*1600*1400mm
- 2.3.2 Machine weight: 3600Kg (approximately).
- 2.3.3 Blade gear box: special design for cold saw (ratio 9.3)
- 2.3.4 Blade: HHS 400mm diameter, 240 teeth, 50mm centre hole,
Offer 1 pcs FOC (Kinkelder from Netherland).
- 2.3.5 HSS blade has at least 20mm additional diameter for re-sharp.
- 2.3.6 Gear rack length: 3 meters, from YYC, Taiwan.
- 2.3.7 Linear guide system: 4 meters, from HIWIN, Taiwan.
- 2.3.8 Feeding ball screw system: 40mm diagram, from HIWIN, Taiwan.
- 2.3.9 Clamp: 2 group with cylinder, bushing type. Offer 1 set FOC.
- 2.3.10 The saw blade feeding angle is decided by the pipe shape. Round pipe can be any angle feeding, but it should ensure that the blade contact point and left point are the corner of the pipe for square and rectangular pipe or special shape pipe. So please inform us all pipe shape and forming angle of production before ordering.
- 2.3.11 The precise moving parts are provided with an oil pump which can automatically fill the lubricating oil. The time can be changed by customer via the touch screen, or the default value is used. The filling amount of each component is adjustable.
- 2.3.12 Machine layout drawing:



3 Commercial Terms:

- 3.1 Price valid period: Within 4 weeks from this quotation issued.
- 3.2 Payment term: 30% T/T in advance upon signing contract. 70% T/T against delivery notice.
- 3.3 Delivery: 60 working days after advance payment received. Factory inspection is accessible before delivery.
- 3.4 Orders once placed cannot be cancelled without our prior consenting writing and on the expressed condition that all expenses incurred till the time of cancellation will be reimbursed by the buyer.
- 3.5 Warranty: 12 month after commissioning or 15 month after delivery, whichever is earlier. The warranty don't include quick-wear part such as blade, encoder, etc.

4 Site installation and commissioning

- 4.1 Seller will send installation drawing to the buyer (foundation layout drawing, cable position and regulation drawing, etc.). Buyer should install the cold saw machine to right place at their factory by its-self. All the necessary power, compressed air, cooling water and etc. should be well prepared before seller's engineer arriving at buyer's site. Seller doesn't pay any cost for this installation.
- 4.2 Seller will appoint 1 engineer to buyer's factory in response of installation supervision and machine commissioning. If the seller can't travel to buyer's factory by Covid-19, seller will assist buyer self-commissioning via internet.
- 4.3 Buyer should charge for seller's engineer two-way flight ticket, local transportation, local accommodation and three meals. Buyer manage the engineers same as their own employee.
- 4.4 Seller's engineer response for training buyer's operator while installation. Buyer should appoint qualified person to participate the training.
- 4.5 The standard commissioning time is 10 working days. Buyer should pay USD80.00/day to every engineer by cash directly. If commissioning time is over 10 days because of buyer's reason, buyer will pay USD120/day to engineer.

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