



PAN-PIONEER Co., Ltd.

民鋒股份有限公司

Name: 630mm-7B Bearing Type Tubular Stranding Machine

630mm-7B Bearing Type Tubular Stranding Machine

[CCCS: Central Computer Control System]

1.] Main specification:

- 1.1.) Type: Tubular rotor bearing surrounding type
- 1.2.) Application: Stranding of 7 wires for
 - 1.2.1.) Copper wire: 1.3-4.5mm soft or hard wire
 - 1.2.2.) Aluminum wire: 1.7-4.5mm EC grade or alloy wire
 - 1.2.3.) Steel wire: 1.0-4.0mm
 - 1.2.4.) Insulated wire: 2.0-5.0mm
- 1.3.) Stranded cable dia: 15mm Max.
- 1.4.) Stranding direction: S & Z.
- 1.5.) Stranding pitch: 20-200mm by MMI+PLC control
HP+HP two motors synchronization control
- 1.6.) 6B cage rotating speed: 700Rpm Max.
- 1.7.) Max. line speed: MPM
- 1.8.) Cradle bobbin size: DIN-46397(or buyer's option)
630/Odx355/IDx127/BDx475/Awx400/TWx140/PR
- 1.9.) Take up bobbin size: 1600mm
- 1.10.) Driven motor:
 - 1.10.1.) Main rotor: HP DC motor
 - 1.10.2.) Capstan : HP DC + 4Q Driver.
 - 1.10.3.) (3) Take-up : 7.5HP AC + Inverter(Torque module).
- 1.11.) CCCS: Central Computer Control System.
- 1.12.) Operation panel: Touch screen type (Monitor)
- 1.13.) Safety cover: Compact hydraulic lifter type.

2.] Machine composition:

- 2.1.) 630mm center wire pay off stand..... 1 set
- 2.2.) 630mm 6B tubular stranding rotor..... 1 set
- 2.3.) Stranding die stand..... 1 set
- 2.4.) Performing rollers unit..... 1 set
- 2.5.) Post former rollers unit..... 1 set
- 2.6.) Length counter..... 1 set
- 2.7.) 1000mm Dual wheel capstan..... 1 set
- 2.8.) 1800mm cantilever type take-up..... 1 set
- 2.9.) Lubricant circulation system..... 1 set
- 2.10.) Safety cover of machine 1 set
- 2.11.) Motors with control panel 1 set
- 2.12.) CCCS operation panel..... 1 set
- 2.13.) Loading/unloading hoist..... 1 set (option)

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3.] Standard spare parts:

- 3.1.) High speed fuse 3 pcs
- 3.2.) Carbon brush for DC motor 1 pc
- 3.3.) Brake shoes spare 6 pcs
- 3.4.) Sensor for auto counter 1 pc
- 3.5.) Tool box 1 set

4.] Detail specifications:

- 4.1.) Center wire pay off stand Type: shaft less type
 - 4.1.1.) Drum size: DIN-46397
630/Odx355/IDx127/BDx475/Awx400/TWx140/PR
 - 4.1.2.) Loading/unloading of bobbin:
 - 4.1.3.) Positioning: bobbin slided on to the loading position
 - 4.1.4.) Lock/un-lock: bobbin supported by two spindles on both sides of cradle, a ratchet with hand lever to be provided
- 4.2.) Tension control:
 - 4.2.1.) Type: Mechanical compensation type
 - 4.2.2.) Wire tension: kg adjusted by spring coil
 - 4.2.3.) Tension device:
 - a.) Tension brake: Special band rope for long life operation will be used in this tension device
 - b.) Tension selection: A screw provided to adjust the spring coil pitch which a variety tension force can be obtain.
 - c.) Compensation of tension: A touch arm provided to touch the barrel of pay-off bobbin, the tension will be maintain constant during the barrel change from full bobbin into empty bobbin.
 - d.) Tension brake: Cast iron with rubber coated for bobbin side of wheel to get enough brake force without driven pin and easy loading of bobbin.
 - 4.2.4.) Guide roller for wire path:
 - a.) Guide roller: Use a lot of guide rollers in the bend portions of wire path to avoid the scrape out of wire surface
 - b.) Guide die: Use a lot of tungsten carbide guide dies in the straight line of wire path to avoid the wire jump out from center
 - c.) Path hole dia: 10mm/ID to be provided.
- 4.3.) 630mm-6B tubular stranding rotor.
 - 4.3.1.) Type: Tubular type strander, the rotor supported by ball bearings which surrounding the tube outer diameter, there are 6 sets of cradle laying inside the tubular rotor.
 - 4.3.2.) Tubular rotor: 1000mm/OD, made of steel tube with excellent dynamic balance test.
 - 4.3.3.) Tubular rotor support: by 3 pcs of special ball bearings

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- which are imported from SKF Sweden. (or Equivalent Brand)
- 4.3.4.) Cage rotating speed: 900RPM Max.
- 4.3.5.) Bearing lubrication:
- a.) A high pressure oil circulating system provided (including oil pump, oil tank and piping system) to injection the oil to the bearings.
 - b.) A lubricant circulating indicator glass tube is installed in front of each bearing housing to show the circulation of oil to operator.
 - c.) A flow switch installed in each rotor bearing circuit to protect the bearing damage due to short of lubricating oil
- 4.3.6.) Cradle: Bobbin supported by two spindles on each side of cradle. for quick lock and unlock the drums a ratchet with hand lever to be provided
- 4.3.7.) Tension control:
- a.) Type: Mechanical compensation type
 - b.) Wire tension: kg adjusted by spring coil
 - c.) Tension device:
 - (a) Tension brake: Special band rope for long life operation will be used in this tension device
 - (b) Tension selection: A screw provided to adjust the spring coil pitch which a variety tension force can be obtain.
 - d.) Compensation of tension: A touch arm provided to touch the barrel of pay-off bobbin, the tension will be maintain constant during the barrel change from full bobbin into empty bobbin.
 - e.) Tension brake: Cast iron with rubber coated for bobbin side of wheel to get enough brake force without driven pin and easy loading of bobbin.
- 4.3.8.) Guide roller for CU. & AL. wire:
- a.) Guide roller: Use a lot of guide rollers in the bend portions of wire path to avoid the scrape out of wire surface
 - b.) Guide die: Use a lot of tungsten carbide guide dies in the straight line of wire path to avoid the wire jump out from center
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- 4.3.9.) Guide roller for Steel Wire:
All the same as (7), except (A) use tungsten carbide die instead of guide roller in the bend portions of wire path to prevent the stiff steel wire damage the guide rollers.
- 4.3.10.) Wire path:(B) will be made in front of (A)
For items (7) & (8) pulling out from bobbin in difference paths:
a.) For CU. & AL. wire: wire through bend portion guide rollers into straight center line of wire path on the surface of rotor.
b.) For Steel wire: wire through bend portion guide dies into straight center line of wire path on the surface of rotor
- 4.3.11.) Drum size: 630/Odx355/IDx127/BDx475/Awx400/TWx140/PR
or as per customer's option
- 4.3.12.) Brake for the tubular:
a.) Type: Disc type pneumatic disc brake
b.) Brake: 3 sets of disc brake surround the tubular rotor
c.) Stopping time: 10-15 seconds. adjusted by regulator to verity of the air pressure
- 4.3.13.) Self-protection and emergency stop
a.) Wire broken device.
b.) safety cover locking sensor
c.) Bearing lubrication oil pressure low
d.) Pre set Counter length has been reached
- 4.3.14.) Die stand
a.) Type: compact rollers type die stand
b.) No. of dies: 2 pairs of roller, one horizontal and one vertical
- 4.3.15.) Performing roller unit
a.) Type: 3 rollers horizontal type
b.) Application: Straighten for each wire before stranding
c.) Adjust: Adjust the middle roller position by manual which driven by a pair of worm gear
- 4.3.16.) Post former roller unit
a.) Type: A vertical type with 7 rollers provided.
b.) Application: To straighten the stranded wire cores
c.) Suitable for steel, copper and aluminum wires
d.) Installed behind of the die stand
- 4.3.17.) Length counter
a.) Type: up and down pulley type with 159mm diameter
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- b.) Unit of length: 1 meter/1 counter
 - c.) Material: up counter wheel made of steel with tungsten carbide coating and grinding, under wheel made of rubber
 - d.) Counter: digital type with 5 figures, included with one step of pre-setting for length reaches
 - e.) Measuring accuracy: 3/1000 Max.
 - f.) A four roller guide roller to be fitted at inlet and outlet position of counter for wire centering
- 4.3.18.) Pulling capstan
- a.) Type: Independent motor driven dual wheel type.
 - b.) Wheel Size: 1000 mm ID. 6 grooves on front wheel and 5 grooves on rear wheel
 - c.) Application wire dia: 3.0-15.0mm
 - d.) Driven motor: HP DC motor.
 - e.) Pulling force: Kg Max.
 - f.) Stranding pitch: 30-250mm, setting by CCCS system.
 - g.) Wheel material: Steel plate welding, wheel grooves with hard chrome plating
 - h.) Direction of revolution: Reversible rotation
- 4.3.19.) 1600mm Cantilever Type Take Up Stand:
Detail specification as per attached No. MS-TH-14C.

5.] Electric hoist for cradle bobbins loading is not included

6.] Operation direction: Right hand (from left to right)