



PAN-PIONEER Co., Ltd.
QUOTATION

10/27/2006IDE

1 + 6 bobbin 630mm tubal Bearing Type Stranding Machine

1.] Application

1.1.) Wire go through out side of the tube rather than inside of the tube, the advantage of this design is to get high quality twisted conductor surface , this is very important for ACSR, copper wire twisting. The bearing of this design is custom-order and the size of these bearing is much bigger than the bearings if the wire go inside the tube (just like China machine design). Pan-Pioneer use bearings made in SKF Germany only. We use first-class steel from Japan for making tubal rotator only.

1.2.) Bobbin Size : 630 mm DIN46397 specification (custom-design available)

1.3.) New Features:

1.3.1.) **Shaft-less type** with electronic shaft control technology for stranding pitch setting.

1.3.2.) **Gear-less** design which is easy for twisting direction change (S/Z) operation and maintenance.

1.3.3.) **Step-less laying pitch** setting which can be set via the TFT touch screen monitor and motor synchronization is controlled by PLC base system.

1.3.4.) Mod-Bus communication technology, which is immune to environment noises rather than the traditional analogue signal control which is affected by the environment noises badly.

1.3.5.) Independent operation for 6B cage for more flexibility.

1.3.6.) Dual 6B stranding mode with one capstan (option)

1.3.7.) CCCS control system.

1.4.) Wire size :

1.4.1.) For copper wire: Up to 3.5mm OD (soft copper wire)

1.4.2.) For aluminum wire: UP to 4.5mm OD

1.4.3.) For steel wire : Up to 3.0mm OD



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1.5.) Technology :

1.5.1.) Gear-less pitch setting (Laying Pitch setting is on Touch screen monitor)

1.5.2.) Individual operation applicable.

1.5.3.) Independent motor driving system synchronized by electrical-shaft linking technology (CCCS Control System)

1.6.) S/Z twist selectable (gear-less)

1.7.) Max twisting speed :

1.7.1.) rpm for 7 wires (mechanism design 800rpm)

2.] Machine Composition

2.1.) 630mm single payoff stand.....	1set
2.2.) 6 Bobbin tubal type stranding mainframe	1set
2.3.) 1250mm dual hauling capstan.....	1set
2.4.) 1600mm cantilever type take-up stand with traveing device	1set
2.5.) Electrical-shaft-linking control system.....	1set
2.6.) CCCS control system	1set
2.7.) Wire broken detector system	2set
2.8.) Adjustable tension rope system.....	19 unit
2.9.) 6 bobbin cage AC Motor control system with encoder	1set
2.10.) Operating side sliding safty door system	1set
2.11.) Safety cover.....	1set



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3.] Detail specification:

3.1.) Type : Independent operation for 7 wire stranding.

3.1.1.) One set for 7B stranding (in case necessary)

3.1.2.) Bearing supporter for each segment.

3.2.) Application:

3.2.1.) For 7-wires stranding

3.3.) Wire diameter:

3.3.1.) For copper wire: Up to 3.5mm OD (soft copper wire)

3.3.2.) For aluminum wire: UP to 4.5mm OD

3.3.3.) For steel wire : Up to 3.0mm OD

3.4.) Rotor speed:

3.4.1.) Shaft-less type , speed is limited by the ratio of the main motor and capstan motor (always one of them reach the maximum line speed)

3.4.2.) S / Z are set on the Touch Screen monitor, No gear select needed.

3.4.3.) 7B stranding cage: 700RPM Max.

3.5.) Cradle bobbin size: 630mm/OD(custom-design)

3.5.1.) Frame is composed by Steel and welded steel.

3.5.2.) Shaft-less type with manual clamping device. Adapters are available if necessary.

3.5.3.) Both-Side bearing stands support and wire go through it and stranding bows.

3.5.4.) Bobbin up loading by crane.

3.5.5.) Tension rope is on the other side of the cradle which is adjust by a sprint lock-up.

3.5.6.) Front side sliding door for safety.



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3.6.) Capstan diameter: 1250mm

3.6.1.) V grooves or U grooves are selectable.

3.6.2.) Two hauling off capstan type, one is driven by motor and another is a passive capstan while hauling off.

3.6.3.) 5X6 grooves are standard,

3.6.4.) Transmission : Motor > Speed reducer > Gear Box > Chain coupling > Motor driven capstan

3.7.) Take up bobbin size:

3.7.1.) 1600mm cantilever type take-up stand

(for detail information of cantilever take-up , please refer to the specification of it in extrusion specification section)

3.8.) Operation panel:"CCCS" Central Computer Control System.

3.8.1.) Shaft-less transmission system

3.8.2.) S / Z direction selection by parameter setting rather gear box

3.8.3.) Independent driving motors for each cages and hauling off capstan

3.8.4.) Mod bus high-speed communication system for speed control for noises-immune. Digital signal speed control achieves higher accuracy than traditional analogue signal control system.

3.8.5.) Laying pitch calculation automatically for standard 6B operation,

3.8.6.) Human-Error Elimination: CCCS will check the parameters set by User and will generate warning signal to User.

3.8.7.) Safety interlock: all the emergency, error signals, and failure are interlock, anyone of them generated will cause machine stop. CCCS will diagnosis the system and display the solution of termination.



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3.9.) Close loop feedback system for high accuracy operation.

Driven system: Independent driven with synchronize control by "CCCS":

3.9.1.) 100HP AC motor with AC type inverter for 6B rotor

3.9.2.) All the motors are equipped with high revolution encoder for close loop control system.

3.9.3.) PLC : Mitsubishi Japan

3.9.4.) Touch Screen Monitor(MMI) : Proface Japan

3.9.5.) Drive : ABB AC Germany

3.9.6.) Motor: MEZ (Siemens)

3.10.) Machine composition:

3.10.1.) 600mm center wire pay off stand1 set

3.10.2.) 600mm 6B Tubal stranding rotor1 set

3.10.3.) Die stand for 6-wires stranding cage1 set

3.10.4.) Post-forming roller unit1 set

3.10.5.) Length counter for 7-wire stranding (not necessary unless dual-6B stranding) Option.

3.10.6.) 1250mm take up for 7B stranding1 set

3.10.7.) "CCCS" operation panel2 sets

3.10.8.) Motors with control panel1 set

3.10.9.) Front side sliding door (open top).....1 set



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