

INSIG
IRAN

Sundsvall, 14 April 2023

Dear Sirs,

WIRE BINDING MACHINE

With reference to your inquiry please find enclosed our offer comprising Wire Binding Machine, type KNCA-7/800D according to drawing No. 70100560.

Wire magazine with pulley wheels and platform as an alternative we can give our manufacturing drawings for it if you prefer to produce it yourself.

Note that Bundle formers, is strongly recommended for best binding result that is not included in our offer.

Should you have any questions or demands not given consideration to in this offer, don't hesitate to contact us.

Yours faithfully.
SUND BIRSTA AB

Magnus Ohlsson
Sales Manager

Enclosure:
Offer No. 49767

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**WIRE BINDING MACHINE,
type KNCA-7/800D**

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2 SCOPE OF SUPPLY**Scope of Delivery**

Item	Q'ty	Equipment	Total weight
1	1	WIRE BINDING MACHINE, type KNCA-7/800D Including: <ul style="list-style-type: none">- Hydraulic equipment with tank.- Oil cooler.- Control console with PLC.	3.3 t
2	1	WIRE MAGAZINE ARRANGMENT DRAWINGS Including : <ul style="list-style-type: none">-Platform-Ladder-Pallet	
3	1	ENGINEERING and PROJECT ADMINISTRATION <ul style="list-style-type: none">- Mechanical.- Hydraulical.- Electrical.	

2 SCOPE OF SUPPLY

Excluding List

This offer does not include the following items.

- Installation and Commissioning
See commercial specification for price on Supervision of Installation and Commissioning.
- Foundation, grouting, beams, bolts and foundation work.
- Protecting handrail and fence including safety components and assembly of safety components.
- Supply of tools, lifting gears etc. necessary for the installation.
- Equipment for reprogramming of PLC.
- Cables, cable carrier and material for power supply and possible signal cables from main cabinet to the machine.
- Lubricants and hydraulic oil for commissioning at site.
- Power, water and compressed air supply, if necessary.
- Transportation of bundle through binding machine.
- Openable wire guides
- Bundle formers
- Binding wire butt welder
- Test run material
- European Community declaration of conformity according to the machine directive and Annex 2A.

Or other items not specified in our offer.

3 GENERAL DATA

General

The submitted solution of the Sund Birsta Equipment is based on the below production parameters of the mill.

Mill Data

Bundle weight	2500kg
Bundle length	12m
Bundle dimension	Max 400 mm
Bar diameter	8-40 mm
Production capacity	60 t/hr
Main power	400V / 50 Hz

Function Imperatives

The machine will be placed at fixed position and the bundle will be conveyed through the track system of the machine during the binding operation. The control of binding positions along the bundle is customer's undertaking.

If the roller table has one movable and one fixed wall, the binding machine must be placed on the same side of the roller table which wall is fixed.

Note that since we don't have any information of above Mill Data, it is up to the Customer to check that the quoted machine is the correct one for this installation.

3 GENERAL DATA

Function Description

Each machine is designed to be working completely automatically, but each of the different functions can be manually operated.

Working cycle

The machine is waiting for start order with binding unit in upper position and wire fed in the wire guide system. The package is passing through the closed wire guide system and is stopped at a pre-set binding position. Start signal is given.

Bundle Former forms material to a bundle.

- Binding unit moving down against the package.
- Clamping of wire end.
- Feeding wheel reverses and stretching procedure follows including flap sequence to achieve a firm and tight binding around the bundle.
- Clamping of second wire part i.e. both wires passing through twisting head clamped.
- Twisting head rotation starts and after a short moment, second clamping tool is deactivated. The wire is cut shortly after the twisting head starts to rotate by means of the rotation movement. Knot is completed.
- Machine units returns to initial position and signal: “O.K. to run conveyor” is given.
- Twisting head resets and wire is fed through the wire guide system when feed signal is given.
- Signal ”Ready for start” is given.

The sequence is similar for double binding but the binding wire passes two turns in the guide system before the end is being clamped.

4 MACHINE DESCRIPTION

***PLEASE NOTE THAT THIS SECTION ONLY IS A GENERAL DESCRIPTION OF THE OFFERED EQUIPMENT.
FOR QUANTITIES AND WEIGHTS, PLEASE SEE OUR SCOPE OF SUPPLY, SECTION 2.***

Item	Equipment
1	<p>WIRE BINDING MACHINE, type KNCA-7/800D For automatic binding around round bundles.</p> <p>The machine is intended to be installed at fixed position in a roller conveyor. The bundles/packages are to travel through the closed wire guide track.</p> <p>The machine can be manually retracted 1400 mm for maintenance purposes.</p> <p>The binding unit is suspended for parallel vertical movement of the binding point. A hydraulic cylinder performs this movement.</p> <p>The binding unit makes a twisted circle knot.</p> <p>Technical data is as follows and the machine description is according to pamphlet TI 0144 and in general accordance with dimension drawing No. 70100560.</p>

4 MACHINE DESCRIPTION

Technical Data

Binding Wire

- 7.0 mm, in accordance with enclosed wire recommendation TI 675 9558-02 Rev. G.

Wire Guide Track

- Diameter $\varnothing = 800$ mm.

Binding Time, single binding

- Approx. 5 to 8 sec. From when the package is presented at the position of the binding machine until the package can be moved.
- Wire feeding time, approx. 3 sec.

Binding Time, double binding

- Approx. 6 to 11 sec. from when the package is presented at the position of the binding machine until the package can be moved.
- Wire feeding time, approx. 6 sec.

Oil Flow

- 100 l/min.

Bundle/package dimensions

- min/max diameter, round products: 150 - 400 mm
- min/max width, square products: 150 - 400 mm

Working hydraulic pressure

- approx. 10 MPa. (100 bar)

Electric Motor

- 11 kW

Control Voltage

- 24 V DC

4 MACHINE DESCRIPTION

Technical Specification

Each binding machine consists of the following main units:

- **Foundation Frame**
With rails.
- **Base Frame**
With 4 guiding wheels, supports the binding unit, hydraulic unit and control console.
- **Binding Unit**
With wire guide track of double turn type, feeding wheel, twisting head, wire cutter, etc.
- **Hydraulic Unit**
Made of welded mild steel, complete with electric motor, hydraulic pump, electro valves, switches, level indicator, oil filter, etc.
- **Hydraulic tank**
Hydraulic Tank – 300 l.
- **Control Console – Programmable Controller (PLC)**
Consisting of control panel with push buttons, switches, warning lights, emergency stop and other necessary equipment for automatic operation.
Also includes a portable control panel for manual operation for service or troubleshooting purposes.

4 MACHINE DESCRIPTION

Item	Equipment
2	<p data-bbox="568 434 1313 582">BUNDLE FORMER, type KNOF-A/400 For forming the bars to a tight bundle during the binding operation. Forming arms are operated by a hydraulic cylinder through a lever system.</p> <p data-bbox="568 618 1313 725">Technical data is as below and the machine description is according to pamphlet TI 0069 and in general accordance with dimension drawing No. 70119995.</p> <p data-bbox="568 761 772 797"><u>Technical data</u></p> <p data-bbox="568 833 798 869">Oil consumption</p> <ul data-bbox="568 878 724 913" style="list-style-type: none"> - 30 l/min. <p data-bbox="568 949 829 985">Bundle dimensions</p> <ul data-bbox="568 994 1244 1030" style="list-style-type: none"> - min/max width, round products: 150 - 400 mm <p data-bbox="568 1066 957 1102">Working hydraulic pressure</p> <ul data-bbox="568 1111 941 1146" style="list-style-type: none"> - approx. 10 MPa (100 bar) <p data-bbox="568 1182 887 1218"><u>Technical Specification</u></p> <p data-bbox="568 1218 1313 1254">Each bundle former consists of the following main units:</p> <ul data-bbox="568 1290 983 1550" style="list-style-type: none"> - Frame work Of welded steel construction. - 2 Forming arms Mounted on bushings. - 1 Hydraulic cylinder <p data-bbox="568 1630 1238 1695">Hydraulic power to be supplied from the Customers hydraulic unit. Electrical control by the Customer.</p>

4 MACHINE DESCRIPTION

Item	Equipment
3	WIRE MAGAZINE ARRANGEMENT DRAWINGS For the binding wire, consisting of: * Support beam with dancing pulley wheel. * Platform and ladder.
4	ENGINEERING and PROJECT ADMINISTRATION Sund Birsta's Engineering comprises the following documentation: <u>Mechanical and hydraulic documentation</u> – Assembly drawings and specifications. – Hydraulic diagrams. – List of switches, valves and electrical motors. – Sequence diagram. – Drawing structure. – Instruction and maintenance manuals in the Spanish language – European Community manufactures declaration according to annex 2B. The documentation will be supplied in the English language in 3 copies, or on CD-ROM in PDF format (Portable Document Format). The software for this will be supplied.

4 MACHINE DESCRIPTION

Item**Equipment****Electrical documentation**

- Drawing list.
- Assembly drawings.
- Connection drawings.
- Cable plan and cable list.

The documentation will be supplied in the English language as E-PLAN on CD-ROM in PDF format. Control software in format as generated by software editor.

Additionally the following can be found in PLC programme:

- Program list of I/O/F/T/C and their symbol names.
- Cross reference list
- Program structure.

Electrical Motors

- * ABB or SIEMENS

Hydraulic Motors

- * DANFOSS
- * M+S

Hydraulic Pump and Valves

- * BOSCH-REXROTH, PARKER, VICKERS,
KAWASAKI

Proximity Switches

- * IFM

Hydraulic Couplings

- * PARKER & HANNIFIN

Programmable Controller (PLC)

- * SIEMENS S7-300

Push Buttons – Lamps

- * TELEMECANIQUE
- * KRAUS & NAIMER

Hydraulic Cylinders

- * BOSCH-REXROTH

Sund Birsta reserves the right to use other brands deemed compatible.