

PROPOSAL SPECIFICATION:

U.K. 242

AUTOMATIC BALING PRESS MODEL:

TGS-200 (14 x 16 x 16)

GENERAL LAYOUT DRAWING NO:

4A-2817

APPLICATION:

Factory clips & skeletons,  
copper - wire & sheet -  
low alloy aluminium sheet,  
shapes and wire.

**A CAPACITY AND RATING:**

A1 PRESS BOX DIMENSIONS:

50" (1270 mm) wide x 40" (1016 mm) deep  
x 116" (2946 mm) long.

A2 CHARGING BOX OPENING:

48" (1219 mm) wide x 81" (2057 mm) long.

A3 BALE SIZE;

14" x 16" x variable (356 mm x 406 mm)

A4 BALE WEIGHT;

260 pounds average (14" x 16" x 16" bale  
mild steel)  
(356 mm x 406 mm x 406 mm) 118 Kg.

A5 BALING CYCLE:

36 seconds (60 cycles/hour)  
(dry operation)

**B COMPONENTS:**

B1 ELECTRIC MOTORS:

B1.1 MAIN SYSTEM:

Two (2) 90 K.W. (125 h.p.) 1500 R.P.M.  
380 or 415 Volts, 3-phase, 50 Hertz.  
Type B17 Enclosure IP 23.

B1.2 PILOT SYSTEM:

One (1) 18 K.W. (25 h.p.) 1500 R.P.M.  
380 or 415 Volts, 3-phase, 50 Hertz.  
Type B3/B5 Enclosure IP 44.

B1.3 FILTER SYSTEM:

One (1) 1.1 K.W. (1.5 h.p.) 3000 R.P.M.  
380 or 415 Volts, 3-phase, 50 Hertz.  
Type B3/B5 Enclosure IP 44.

B1.4 OIL CIRCULATING  
SYSTEM:

One (1) 3.0 K.W. (4.0 h.p.) 3000 R.P.M.  
380 or 415 Volts, 3-phase, 50 Hertz.  
Type B3/B5 Enclosure IP 44.

B1.5 AIR BLAST COOLERS:

Two (2) 3 K.W. (4 h.p.) 720 R.P.M.  
380 or 415 Volts, 3-phase, 50 Hertz.  
Type B3 Enclosure IP 15

## B COMPONENTS (Continued)

### B2 ELECTRICAL CONTROL PANEL:

- B2.1 One (1) dust and damp proof general purpose enclosure housing main isolator, assisted start motor starters (main motors only) across the line auxiliary motor starters, fuse gear, overload gear control circuit transformer, control relays wired to terminal strips.
- B2.2 One (1) operator's push-button station, dust and damp protecting general purpose enclosure to include control switches and indicating lights wired to terminal strips.
- B2.3 Electrical component suppliers SIEMENS or TELEMECANIQUE.
- B2.4 Control circuit voltage 110 or 220 Volts.
- B2.5 Power supply and control circuit voltage outside this range can be specially provided for at extra cost.
- B2.6 Sufficient cables from panel (B2.1) to main and auxiliary motors, also control cables from panel to junction boxes and push-button station (B2.2) All lengths to suit our standard layout as illustration attached.

### B3 HYDRAULIC SYSTEM:

- B3.1 MAIN PUMPS: Four (4) 60 (U.S.) G.P.M. @ 2400 p.s.i.  
(227 litres) (165 Bar).
- B3.2 PILOT PUMP: One (1) 18/8 (U.S.) G.P.M. @ 2000/700 p.s.i.  
(68/30 litres) (138/48 Bar)
- B3.3 COOLING PUMP: One (1) 120 (U.S.) G.P.M. @ 50 p.s.i. (3.5 Bar)  
(455 litres)
- B3.4 FILTER PUMP: One (1) 20 (U.S.) G.P.M. @ 20 p.s.i. (1.4 Bar)  
76 litres)
- B3.5 VALVES: Harris or equal.
  - B3.5.1 Individual relief valves protect each pump from overload pressure.
  - B3.5.2 Directional valves are electrically controlled and hydraulically operated.
- B3.6 CYLINDERS: Harris designed and manufactured or equal.
  - B3.6.1 FIRST COMPRESSION: 10" (254 mm) bore, 94 tons (U.S.)  
(85 tonnes)
  - B3.6.2 SECOND COMPRESSION: 16" (406 mm) bore, 241 tons (U.S.)  
(218 tonnes)
  - B3.6.3 THIRD COMPRESSION: 16" (406 mm) bore, 241 tons (U.S.)  
(218 tonnes)
  - B3.6.4 BALE DOOR: 8" (203 mm) bore, 60 tons (U.S.)  
(54 tonnes)

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## B COMPONENTS (Continued)

### B4 FILTERING:

B4.1 Filtering is by a combination of screens, tank magnets and replaceable cartridge type micron filter.

### B5 COOLING:

B5.1 Standard cooling is oil to air heat exchanger. We will provide sufficient pipe and fittings to locate the coolers on pumphouse roof.

### B6 TOOL KIT:

B6.1 A tool kit is included for normal servicing of machine (excluding power tools).

### B7 SERVICE MANUAL:

B7.1 A Service Manual will be provided in language of customer's choice, to provide easy maintenance information.

## C OPERATION:

C1 There are three modes of operation; Manual, semi-automatic and automatic repeat. Manual operation is provided primarily for set up and maintenance purposes. Semi-automatic is usually preferred in conjunction with batch feeding. Automatic repeat mode is normally synchronized with conveyor or other automatic methods of charging scrap and handling finished bales.

The baling sequence is as follows; When the press is being operated in the semi-automatic mode, loose scrap may be charged on top of the first compression ram if it is forward or directly in the box if the ram is fully retracted. If the press is operated in the automatic mode, loose scrap is charged only on top of the first ram, from where it falls into the press box automatically as a function of the baling cycle.

At the start of a cycle, the first compression ram extends fully forward. Any scrap extending above the ram is sheared off and gets mixed with the next charge of scrap. The second compression ram extends to the fully down position and the third compression ram then extends to complete the bale. The bale door opens and the bale is ejected by the third ram. All three compression rams retract, the bale door closes and one cycle is completed.

#### D CONSTRUCTION;

- D1 The Model TGS-200 design follows established Harris standards and incorporates all current improvements.
- D2 Major sub-assemblies are heavy plate and structural weldments of cellular construction, stress relieved before machining to design dimensions.
- D3 Final assembly is bolted and keyed in accordance with good engineering practices.
- D4 Press box, baling chamber and ram wear surfaces are fitted with replaceable liner plates of heat treated alloy steel.
  - D4.1 Grooved liners are furnished special to order.
- D5 All liner plates are sectional design for ease of replacement.
- D6 The compression faces of all rams are fitted with replaceable wear plates of heat treated alloy steel.
- D7 All replaceable wear plates are securely fastened with Harris patented screws or through bolts.
- D8 All rams are box type steel weldments, stress relieved and machined to design dimensions.
- D9 Shear knives are securely seated in press frame and first compression ram. Adjustment is by tapered gibs. All four edges of knives are designed for shearing.
- D10 All pipe is electrically welded, pickled and securely anchored.
- D11 Pipe flanges are steel, bolted type, with 'O' ring gaskets.
- D12 The press is completely assembled and tested before shipment.
- D13 Standard paint is machinery enamel over primer coat.
- D14 Safety; Machine guards are supplied to comply with United Kingdom safety standards. Perimeter guarding to prevent personnel entering restricted area during machine operation is the customer's responsibility.
- D15 Shipping Weight: 110,000 lbs. approx. (49,910 Kgs.)

#### E GENERAL;

- E1 Layout and foundation prints show above grade dimensions and conditions. Below grade soil conditions, pilings, footings and associated components are matters of local determination for which Harris can accept no responsibility.
- E2 Harris technical services are available on a free advisory basis to assist in determining the location and material flow conditions best suited to utilize the high production of Harris equipment.

E GENERAL (Continued)

- E3 The erection of the machine at site would be with the use of your labour and equipment, and on your prepared foundations.
- E4 Harris will provide the services of a competent technician to supervise installation and commissioning and initial operation for a total period of Five (5) eight-hour working days.
- E5 It is the customer's responsibility to ensure that the ambient air temperature in the main pumphouse is a minimum of 10°C (50°F).

F EXPENSES ASSUMED BY THE PURCHASER TO COMPLETE THE MACHINE INSTALLATION:

- F1 Ex-works freight to destination.
- F2 Preparation of foundation.
- F3 Unloading and assembling of the press.
- F4 Wiring from power source to electric control panel.
- F5 Furnishing approximately 1200 U.S. Gallons (4550 litres) of Shell Tellus 68 (or equal) hydraulic oil for the hydraulic system.
- F6 Supplying power factor correction equipment.
- F7 Installing heating equipment to ensure pumphouse temperature exceeds 10°C (50°F).

G WARRANTY:

- G1 The Seller guarantees its product for the period of six months, or 1000 hours, whichever is sooner, after date of delivery F.O.B. Bridgend, Glamorgan, against defects in material and workmanship for use within the capacity defined in Section A. No guarantee shall exist if unauthorized alterations have been made by the owner or user or stated capabilities of the machine exceeded. In case any material or workmanship shall prove defective, the Seller's liability will be limited to repairing any defect in workmanship or replacing defective parts packaged for shipment F.O.B. Bridgend, Glamorgan. All outside purchased equipment and accessories are guaranteed only to the extent of the original manufacturers guarantee, shear blades included, no exceptions. (Manufacturer reserves the right to change the design and construction of the product when, in their opinion, it represents an improvement of any part of the entire product) Seller shall have no liability or responsibility for consequential damages of any kind.

# HARRIS

## TGS-200 GENERAL LAYOUT 14 X 16 X VARIABLE

