



GRANUTECH-SATURN SYSTEMS CORPORATION
201 East Shady Grove Road
Grand Prairie, Texas 75050
PHONE: 972/790-7800
FAX: 972/790-8733
e-mail: sales@granutech.com

PROPOSAL SPECIFICATION
AUTOMATIC BALING PRESS: MAC MODEL 2100 BALER
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No Publication Intended

APPLICATION: Loose steel sheet, frame stock, industrial sheet, clips, and trim stock. Ferrous and non-ferrous.

A. CAPACITY AND RATING:

A1	CHARGING BOX DIMENSIONS:	48" wide x 16" deep x 112" long
A2	CHARGING BOX VOLUME:	50 cubic feet
A3	CHARGING BOX CLEAR OPENING:	48" wide x 82" long
A4	BALE SIZE:	16" x 16" x variable
A5	COMPLETE CYCLE:	60-65 seconds
A6	BALE WEIGHT - FERROUS MATERIAL:	350 pound average
A7	BALES PER HOUR:	54-64 @ 100% efficiency
A8	DENSITY:	165 pounds/cubic foot average (ferrous) 60-85 pounds/cubic foot average (aluminum)

B. COMPONENTS:

B1	HYDRAULIC SYSTEM:	
	B1.1 MAIN PUMPS:	Hi-lo system; total pump capacity = 100 GPM; maximum pressure 3,000 PSI One 33 GPM pump One 67 GPM pump
	B1.2 VALVES:	Denison & Vickers or equal
	B1.2.1	Individual relief valves protect each pump from overload pressure
	B1.2.2	Directional valves are electrically controlled and hydraulically operated
	B1.3 CYLINDERS:	MAC design and manufacture or equal
	B1.3.1	9" piston diameter; 6" ram 300 tons force total 781.25 PSI face pressure total
	B1.3.2	12" piston diameter; 9" ram 180 tons force 1406.25 PSI face pressure
	B1.3.3 Gate Cylinders:	Two 4" piston diameter; 2" ram 38 tons total force



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B. COMPONENTS (continued):

- B2 ELECTRIC MOTOR: One 150 horsepower, 1,750 RPM, 240-480 volt, 3-phase, 60 cycle Open Drip
- B3 ELECTRIC CONTROL:
- B3.1 All control panels per NEMA specifications to include one full line voltage motor starter with overload protection, control circuit transformer and cycle control relays wired to terminal strips.
 - B3.2 One operator's station enclosure to include oil tight control switches and signal lights, prewired.
 - B3.3 Limit switches are heavy-duty and are used to control all positions of moving components. Pressure switch used for final compression.
 - B3.4 Manual override is provided as a standard feature for all solenoid activations.
- B4 FILTERING AND COOLING SYSTEM:
- B4.1 Filtering is replaceable cartridge-type micronic filters.
 - B4.2 Oil tank capacity: 500 gallons

C. OPERATION:

There are 3 modes of operation: Manual, semi-automatic and automatic. Manual operation is provided primarily for set-up and maintenance purposes. The automatic and semi-automatic cycle begins when the charge box is full with material to be baled. The machine will shear and bale the material in the chamber, eject the bale and retract all rams to the starting position. If semi-automatic mode is selected, the machine will make one full cycle and stop. If on automatic, the machine will continue to cycle.

The baling sequence is as follows: Loose material is brought to the machine by crane or other loading devise and placed in the charge box. The machine is now put into the automatic cycle for operation. The first compression begins and the second starts only after the first is fully extended. The second compression begins after the full extension of the first ram head, assuring positive positioning of the first compression head. The second ram head extends until maximum pressure is reached. When maximum pressure is reached, pressure is relieved and the gate door opens. When the gate is fully open, the second compression ram head ejects the bale. When the second ram head is fully extended and the bale is clear of the chamber, the second ram head reverses and returns to its fully-retracted position. Simultaneously, the gate door closes to its fully closed position and the first ram head returns to its retracted position, allowing material which has been placed on top of the cover plate to fill the charge box. The first ram head can only retract after the second ram head has fully returned. (Any ram can be moved in any direction, manually, at any time, for maintenance and safety purposes.)

D. CONSTRUCTION:

- D1 The MAC 2100 is built to the finest in quality standards.
- D2 Assembly is the best in design and manufacturing technology.
- D3 The machine is designed so that a special slab is not required.
- D4 All surfaces in contact with moving plates are lined with wear plate of heat-treated high-alloy steel.
- D5 All pipe is electrically welded and securely anchored.
- D6 Pipe flanges are steel, bolted type, with "O" rings.
- D7 All rams are box-type steel weldments, stress relieved and machined to design specifications.



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D. CONSTRUCTION (continued)

D8 Cylinders:

D8.1 Cylinders are all double acting.

D8.2 Pistons are Teflon or bronze, protected in honed bores.

D8.3 Rods are high alloy steel, hard chrome plated.

D8.4 Rod wipers, seals and "O" rings are of standardized sizes.

D9 The press is completely assembled, operated and tested before shipment.

D10 Standard paint is machinery enamel over primer coat.

E. GENERAL:

E1 Layout and foundation prints show above-grade dimensions and conditions. Below-grade soil conditions, piers, piling, floating and associated components are matters of local determination for which MAC can accept no responsibility.

E2 This proposal includes the services of a qualified specialist for three 8-hour working days. He will assist in placing the press in operation and instruct your operator in recommended operating and maintenance procedures.

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

F1 All freight charges from Dallas, Texas to destination.

F2 Preparation of foundation where applicable.

F3 Unloading and assembling of press.

F4 Wiring from power source to electric control panel.

F5 Special operator tower, stand, or building for operator or power unit at buyer's expense. Safety-approved canopy-type operator's cab with electrical console provided by manufacturer.

F6 Furnish all fuses.

F7 Electrical power data for power company:

A. End Rush - Locked Rotor 340 amps each

B. Running load 60 Amps each

C. Recommended Service - 200 Amps

F8 Furnish all necessary hydraulic oil for the hydraulic system.

G. WARRANTY: (See sales contract)

The 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 including damage or injury to persons or property arising out of use, transportation, or operation of said article.