

Technical Specification

GENERATOR TYPE SG 6A

CIRCUIT

The basic circuit consists of a power supply section feeding a silicon thyristor functioning as a relaxation oscillator inverter. The power supply includes a switched transformer with tapings giving three levels of power output: 50%, 75% and 100% of full power. Automatic frequency tracking by a feed-back path from the transducer continuously adjusts the oscillator frequency to match the transducer under variable loading conditions. A preset band width control and a resonance indicating meter enables initial setting up to be carried out.

Incorporated protective circuits to prevent component overloads due to voltage surges or high temperature. Solid state devices are used throughout. A miniature circuit breaker safeguards against transient surges or misuse of the equipment. An integral axial flow fan provides component cooling. External control circuits are energized by a 110 volt supply.

CONTROLS

ON/OFF switch with integral pilot lamp. Preset band width control. Resonance indicating meter. Automatic reset timer adjustable between 0.2 seconds and 10 seconds. Illuminated mains switch. Three position power selector switch. Miniature circuit breaker at rear of cabinet.

CONNECTIONS

The generator is coupled to the press head using a 6ft. length of industrial multilead cable terminated in plugs.

CONSTRUCTION AND FINISH

Circuit components are positioned for point-to-point wiring with the inverter section assembled as a pre-wired module. The removal of the cover enables all components immediately accessible for service.

Robust ventilated steel casing, rustproofed and finished in stoved enamel.

POWER RATING

Input: 200 - 250 volts, 50 Hz., single phase, 1.0 kVA.
Output: 600 Watts maximum with provision for selecting 300 Watts and 450 Watts. At nominal frequency of 19 kHz.
Size: 22" x 15 7/8" x 10 1/8" high (55.9 x 40.3 x 25.7 cms).
Weight: 97 lbs (44 kgs).

GENERATOR TYPE SG 10A

The construction is generally similar to Type SG6A and has the same circuit but full power only is supplied to the transducer.

CONTROLS

ON/OFF switch with integral pilot lamp. Preset band width control. Resonance indicating meter. Weld timer with automatic reset adjustable between 0.2 seconds and 10 seconds. Hold timer with automatic reset adjustable between 0.2 seconds and 10 seconds. Illuminated mains switch. Miniature overload circuit breaker at rear of cabinet.

POWER RATING

Input: 200 - 250 volts, 50 Hz., single phase, 1.4 kVA.
Output: 1 kW at nominal frequency of 19 kHz.
Size: 24" x 14 1/2" x 9 1/2" high (61 x 37 x 24 cms).
Weight: 120 lbs (51.6 kgs).

PRESS TYPE SW6/10

CONSTRUCTION

A cast aluminium platen has a machined surface with a steel support pillar carrying the head. Pneumatic controls are incorporated into the base of the platen and consist of a pressure gauge and adjustable valve.

The vertical movement of the transducer is pneumatically actuated and incorporates a secondary air cylinder for balancing the weight of the carriage. The main slide is also balanced by a spring and may be locked at any convenient position on the support pillar.

TRANSDUCER

The transducer consists of a laminated magnetostriction stack wound with heat resistant wire. The stack is coupled to a stepped stub mounted at its nodal point on the slide. A tapped hole in the stub allows work horns to be attached. The complete transducer is held to the slide with a clamp ring, enabling rotation of the stub for correct orientation of work horns. Levelling screws are also provided.

A fan blower inside the transducer cover cools the unit during continuous operation. The high efficiency transducer obviates the necessity for more elaborate cooling means. Power is automatically supplied to the transducer by the operation of an air-line pressure switch when contact is made with the work.

WORK HORNS

The work horn is usually designed for a specific purpose although a number of standard forms are available for general use. They may be of exponential, stepped or parallel form and the usual constructional material is a titanium alloy for high transmission efficiency. The working face can be circular, ring, bar or of complex shape. Radyne facilities include an Application Laboratory for evaluation of customer's samples and the manufacture of suitable work horns.

DIMENSIONS AND SUPPLY REQUIREMENTS

Free Air Consumption (per cycle): 0.08 cu.ft. free air (2260 cu.cms).
Air Line Pressure: 50 - 150 p.s.i. (3.5 - 10.5 Kg/cm²).
Applied Pressure of Work Horn: Minimum - 5 lbs. (2.25 Kg).
Maximum - 100 lbs. at 80 p.s.i.
Air line pressure (45 kg at 5.6 Kg/cm²).
Platen Dimensions: 14" x 15 1/2" (36 x 40 cms).
Press Stroke: 3" fully floating (7.6 cms).
Throat Depth: 10 3/4" (27 cms).
Maximum Work Height: 13 3/4" (35 cms).
Overall Size: 15" x 22 1/2" x 36 1/8" high (38 x 57 x 92 cms).
Weight: 102 lbs. (46 Kgs).

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GUARANTEE AND CONDITIONS OF SALE

The components excepting semi-conductor devices, lamps and other consumables used in Radyne standard equipment are guaranteed against faulty workmanship or material for twelve months from the date of delivery, and will be replaced if found to be faulty within that period, providing that any transducer assembly is not allowed to exceed 300°F. Semi-conductor devices are subject to the manufacturers' own terms. Thereafter it is assumed that the user will maintain or replace them

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