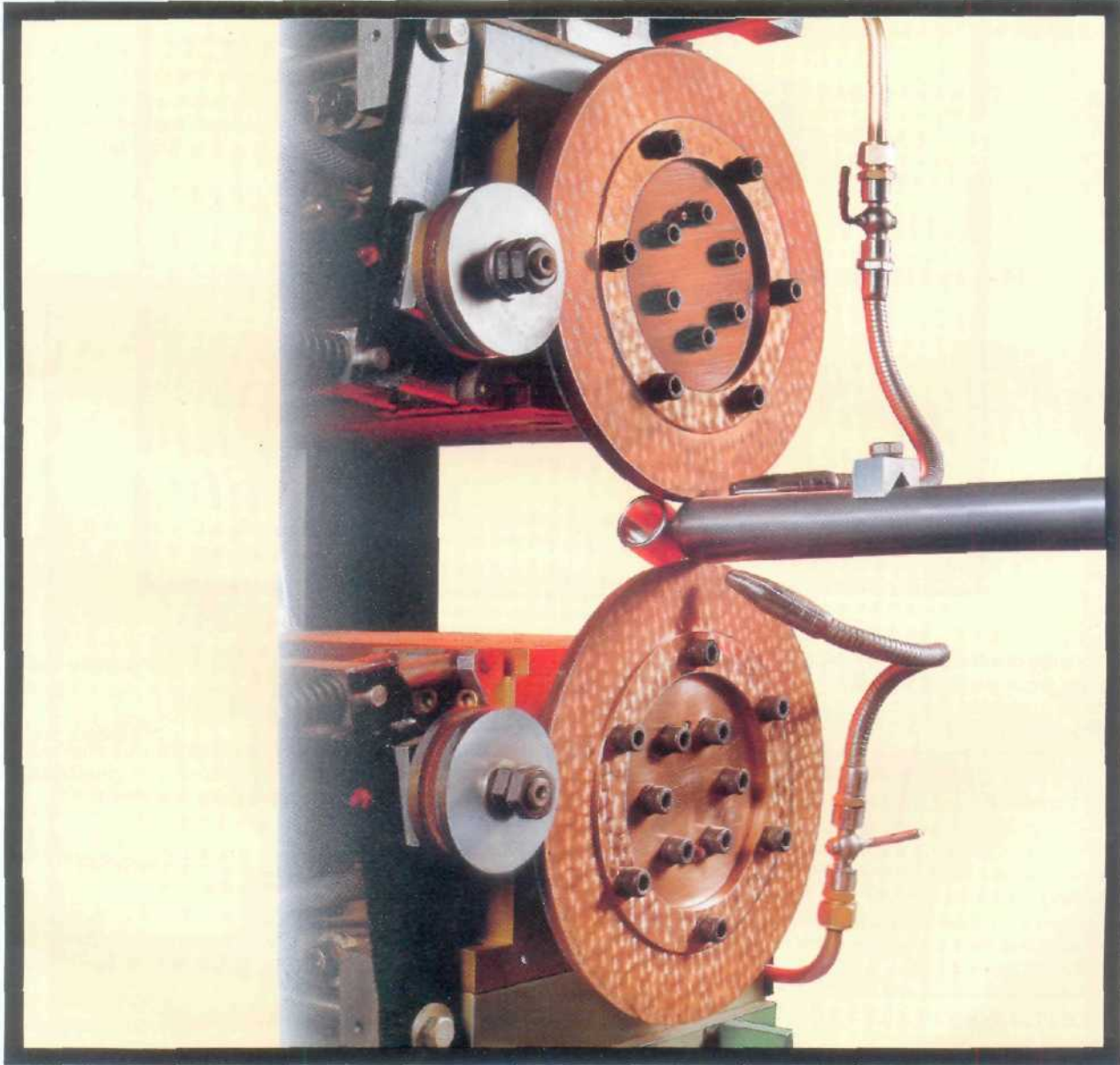


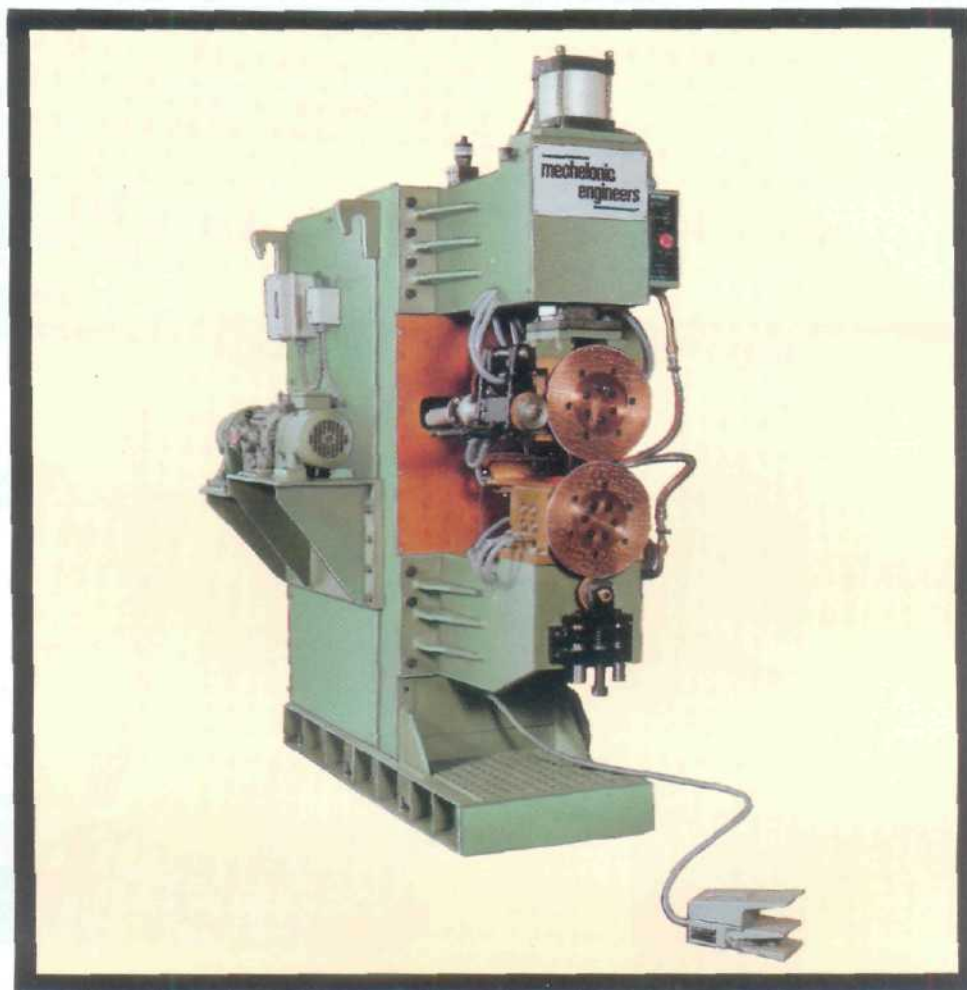
mechelonic engineers



SEAM WELDING MACHINE LONGITUDINAL/CIRCUMFERENTIAL

These machines are precision-built, with careful design and robust construction, suitable for a long trouble-free service. Each machine is submitted to rigorous proving tests before delivery is made, in order that the machine may be ready for immediate installation and operation at customer's works.

The "KNOW-HOW" which enables MECHELONIC ENGINEERS to offer these machines, which are included in the widest range of resistance welding and ancillary equipment, is backed by many years of experience in Welding Technology and conforming to IS:4804 and RWMA Standards.



Machines covered under this bulletin are single phase AC for seam welding application in the manufacture of Drums & Barrels, Fuel Tank, Silencer, Muffler, Shock Absorber, etc.

SPMs AND THREE PHASE D.C. MACHINES :

Mechelonic Engineers have in their range a number of SPMs for seam welding applications for jobs, such as fully automatic barrel & shell welding (longitudinal), tub cover welding (circumferential), shock absorber welding, fuel tank welding and other automobile components. Mechelonic Engineers also have seam welding machine with 3 phase DC transformer and matching controls.

SPECIFICATIONS:

RATING KVA: 50, 75, 100, 150, 200

CONSTRUCTION:

Robust Construction, streamlined appearance with maximum resistance to deflection. Welding Transformer enclosed in the main frame, pneumatic controls mounted on the side of the machine.

WELDING TRANSFORMER:

Conforms to IS:4804 Part-I and RWMA Standards, water cooled, class 'F' insulation with thermoswitch protection from overloading.

CURRENT CONTROL:

Welding current adjustable from 50 to 100% by means of tap change links.

COOLING SYSTEM:

Thyristors, Transformer. Secondary connections and electrode wheels are water cooled.

ELECTRODE FORCE:

Upper ram is actuated by heavy duty 2-way pneumatic cylinder, controlled by solenoid valve. Compressed air at 2.0 kg cm. sq. to 5.6 kg. cm. sq. provides the electrode force.

Air filter, lubricator, regulator, pressure guage are provided as standard accessories.

ELECTRODE DRIVE:

Machines are provided with different drive system depending on the application. Customer to specify the preferred system.

- 1) Direct Drive : Direct gear drive is given to any one of the wheels.
- 2) Knurl Drive : One of the wheels or both are driven through a serated hardened wheel depending on the style of welding. Constant dressing of weld wheel to maintain uniform profile, constant welding speed irrespective of weld wheel diameter are some of the advantages of knurl drive system.

NARROW TRACK SEAM WELDING:

(Optional at additional cost)

In order to weld coated sheets for application like fuel tank, machine with narrow track welding (2.5 to 3 mm weld width) facility could also be supplied.

In narrow track seam welding, weld wheels are of thickness 6 mm constantly coined for circular profile which results in narrow contact with very high pressure density. Due to this high pressure density the coated material on the sheet metal is squeezed out during the welding.

MOTOR DRIVE:

Machine will be supplied with drive system comprising AC squirrel cage induction motor, DOL Starter, Reversing Switch, Mechanical Speed Variator and Reduction Gear Box as standard. Other types of drives including DC drive on request.

ELECTRONIC CONTROLS:

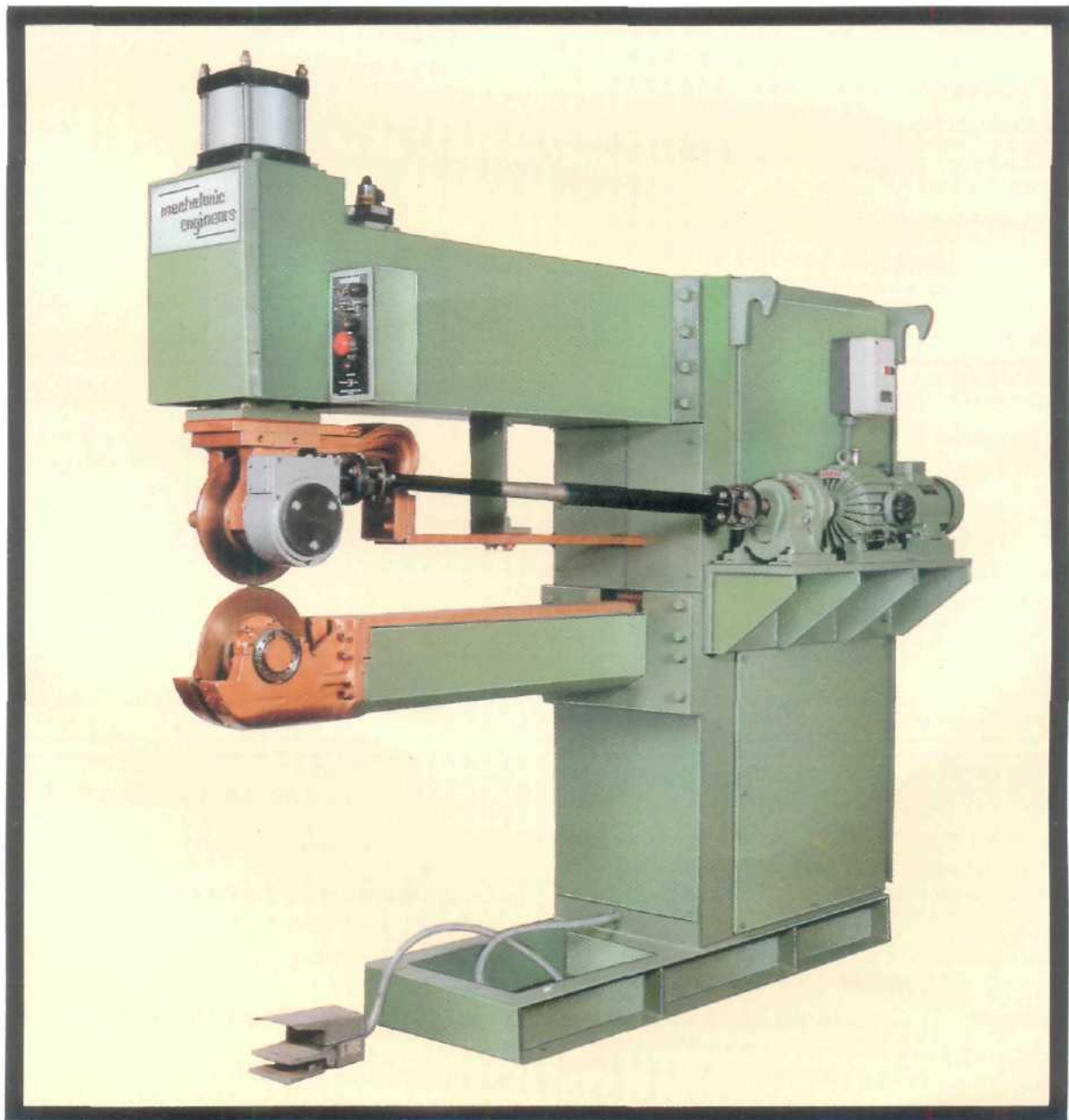
Fully solid state electronic controls suitable for mounting on the side of the machine or independent floor mounting are supplied with machine having the following facilities:

- 1) A squeeze time control adjustable from 2-25 cycles to select delay between initiation of the foot switch and the start of the weld.

- 2) Synchronous (digital) timing of 1-9 cycles 'ON' and 0-9 cycles 'OFF' both in steps of one cycle each for weld time.
- 3) Phase shift heat control for firing the thyristors and to adjust the welding current between 50 and 100% over and above the transformer taps.
- 4) High Power switching device consisting of 2 thyristors connected in inverse parallel and mounted on a water cooled heat sinks. Protective devices for high voltage surges and thermo-switches are standard features.
- 5) Hold time having a range of 2-25 cycles to provide a delay between stoppage of weld and separation of weld wheels.

MICROPROCESSOR BASED WELD CONTROL: (Optional at extra cost)

Machine can be supplied with Microprocessor based control. (For details refer Mup Spcn.)



SERVICE REQUIREMENTS

(Customer to provide the following service facilities):

Power Supply:

- (a) **For Transformer:** 415V single phase 50 cycles (suitable for connection to 2 lines of 3 phase supply). Main supply cable for transformer connection. Disconnect switch with fuses of recommended rating.
- (b) **For Motor:** 415V, 3 phase, 50 cycle for A.C. Motor drive supply cable 1.5 sq. mm. & 3 core, TPIC switch fuse unit 500 V, 15 Amps, A.C. Motor Drive system.

COMPRESSED AIR:

Supply of air at recommended flow volume at a minimum pressure of 5.6 kg/cm, sq.

COOLING WATER:

Clean water at minimum 2.6 kg. cm. sq. pressure and temperature below 30 degree centigrade at recommended flow rate.

TECHNICAL DATA

MODEL: LONGITUDINAL: CIRCUMFERENTIAL:		SL-50 SC-50	SL-75 SC-75	SL-100 SC-100	SL-150 SC-150	SL-200 SC-200
Rating @ 50% duty cycle	KVA	50	75	100	150	200
Upper Electrode Cylinder Stroke Max	mm	50	50	50	50	50
Vertical Adjustability of Ram	mm	50	50	50	50	50
Max. Available short circuit ±10% at 460 throat depth:	KAmps	13	15	20	25	30
Max. Electrode Force® 5.62 kg/cm ²	Kg!	440	440	440	625	990
Air consumption @ 100 operation with full cyl. stroke	Ltrs.	506	506	506	750	750
Min. Cooling Water required	L/Min	40	40	40	45	45
Main supply cable size (Cu/Alu)	mm	25/50	50/70	70/95	95/120	120/185
Main Supply Switch Fuse Rating 500 V	Amps	100	150	200	400	400
Welder Protection Fuse H.R.C. type	Amps	90	140	175	250	350
Approx. Machine Dimensions excluding Throat:						
for single phase A.C. Machine only	Depth	mm	1500 PLUS THROAT DEPTH.....			
	Width	mm	1200.....			
	Height	mm	2000.....			
Approx. Weight (+ 50 kg per 100 mm Throat depth.)	Kg		1000	1100	1100	1200
Shipping Weight (Approx.)	25-30% more than machine weight.					
Note: As efforts are constantly being made to improve the design of the Machine, the machine supplied may differ from specification given above.						

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