

SEAM WELDING MACHINE

(NON-FERROUS)

MHFSW-series

Introduction:

MHFSW series of high/medium frequency seam welder machines are available in more than 100 different modes (50 -25,000 ampere in various frequency ranges from 400Hz to 15,000Hz. Virtually offering all welding solutions to ferrous and non-ferrous metal. These find wide applications in automobile, sheet metal, chassis mfr, home appliance, medical, forging, heavy electrical engineering, aerospace, and many research & development applications.

Operating Principle:

These seam welding machine are low dynamically self-adjusting output impedance machine to ensure uniform/consistent heat profile across weld to make up with 2-15 time varying weld impedance, which is the main requirement for seam welding application to minimize /eliminates, weld-metal expulsion, thereby eliminating blow holes, crack related failure, better weld finish etc. Further low output impedance improves energy efficiency by more than 25 percent/low reactive power apart from saving welding material. Fast control action/low-electrical time constant ensure meeting fast varying weld current demand. If one closely understands then seam welder is also able to weld high conductivity metal pair like copper etc at larger weld current above 15,000 amperes/larger welding thicknesses giving almost better seam finish/ low thermal loading (2-3 x 10⁶ K/sec). In seam welding machine, heat is generated by passing high current at high resistance weld point. Weld energy generated is the function of weld current, weld resistance, contact pressure, welds area etc. Effectively a good weld joint is achieved when optimal melt of weld is fused at a specific rate under external applied pressure.

$$m_{\text{melt}} = K \times R^{-V1.6} (f, d, T)^{0.8} \times P^{1.62} \cdot A \cdot t$$

f= frequency, D= density R= weld resistance , A= weld area, t= weld time, melt=max.weld current



MHFSW-0060040



MHFSW- 0160100



MHFSW-0350200

SPECIFICATIONS OF HIGH FREQUENCY SEAM WELDING MACHINE

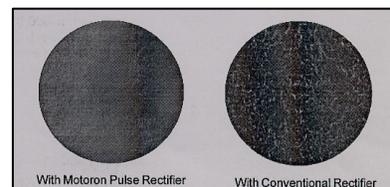
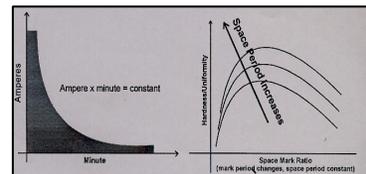
Duty cycle:50 Power range<500.0 K.Watts

Model	Power V.A.	Current Amps	length/head/ holding of electrode	Depth pressure/ Electrode Stroke	Electrode arm/LPM	Model	Power V.A.	Current Amps	length/head/ holding electrode-m.m.	Depth pressure/ Electrode Stroke m.m.	Electrode arm/LPM
MHFSW-0150060	01,500.0	000600.0	380/03/25	004000/60	50×040/3	MHFSW-0160100	016,000.0	010000.0	380/15/25	02000/60	50×180/5
MHFSW-0200080	02,000.0	000800.0	380/04/25	000500/60	50×050/4	MHFSW-0250150	025,000.0	015000.0	380/16/25	02500/60	50×200/5
MHFSW-0250010	02,500.0	001000.0	380/05/25	000600/60	50×050/5	MHFSW-0060040	030,000.0	018000.0	380/20/25	04000/60	50×200/5
MHFSW-0030020	03,000.0	002000.0	380/06/25	000700/60	50×060/5	MHFSW-0100060	035,000.0	200000.0	380/25/25	06000/60	50×200/5
MHFSW-0045030	04,500.0	003000.0	380/07/25	000800/60	50×080/5	MHFSW-0120080	040,000.0	250000.0	380/30/25	07500/60	50×250/6
MHFSW-0060040	006,000.0	004000.0	380/08/25	01000/60	50×100/5	MHFSW-0750300	075,000.0	300000.0	380/35/25	09000/60	50×300/8
MHFSW-0100060	010,000.0	006000.0	380/10/25	01500/60	50×120/5	MHFSW-1500350	0150,000.0	350000.0	380/40/25	10000/60	50×350/8
MHFSW-0120080	012,000.0	008000.0	380/12/25	02000/60	50×150/5	MHFSW-2000500	200,000.0	500000.0	380/45/25	15000/60	50×350/8

Three numerals x 100 after MHPSW indicates voltage of power supply and last three digit Indicates current.All dimensions are in inches/Efficiency of welding machine raises as current increases. Welding equipment above 200 amps are water cooled

HIGH FREQUENCY SEAM WELDING MACHINE CONTROLLER SPECIFICATION:

- Operating voltage 220 volts, 1/3 phase, 40-60 Hz
- Output current/voltage 0-80 kilo amps/20000 mili volts(max)
- Voltage/current ripple 10 micro volts-noload/ 100 micro volt-full load
- Operating frequency 5.0-200 K.Hz
- Voltage/current control accuracy 99.9% of set point
- Resolution 0.1 volts/amps D.C.
- Repeatability 100 percent
- Interface Signal 0.0-12.0 volts D.C. [proportional to weld current]
- Voltage control range 0.0-8.0 kilo volts
- SPACE-MARK RATIO 1:3 to 1:9(option)
- Control options 1.cascade feedback control with soft start 2. Constant voltage/current with external adjustment.
- Display Voltage/current/gauss/space mark/amp-sec
3½ red glow LED display/Protection : over voltage/short ckt.



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