



MF



RESISTANCE MEDIUM FREQUENCY THREE PHASE SPOT/PROJECTION WELDERS

The MF range of medium-frequency inverter resistance welders is the ultimate answer to increasing demand for quality in resistance welding applications.

Constant current control, fast millisecond current regulation, high quality and perfect control of the energy transferred to the weld nugget are the main advantages versus traditional 50 Hz equipment.

MF models fully meet the mass production toughest industrial applications.

Thanks to their features, they represent the ideal solution for resistance spot welding of thin thickness and of hardly weldable material, such as copper, brass, aluminium alloys, zinc plated and other coated steel.



Inverter

DC
+ -

DIGITAL
888



- ▶ All MF equipment can be converted into bench version types (BSW) or utilized in seamwelding applications too.
- ▶ High welding quality and process reliability
- ▶ Direct current welding
- ▶ Large power for welding with increased arm lengths
- ▶ Possibility of monitoring the welding process each 1 ms (1000 Hz) or even each 0,2 ms with MF 5040 versus 20 ms of traditional 50 Hz equipment.
- ▶ The presence of magnetic materials between the arms does not affect welding
- ▶ Self-lubricated pneumatic components to eliminate oil deposits and to safeguard the environment from contaminants
- ▶ Water cooled secondary circuit
- ▶ Low tendency for welding spatters
- ▶ Less imprint and deformation
- ▶ Very long electrode life



MF 1040 – MF 1041 – MF 5020

The most enhanced inverter technology for medium frequency spotwelding available for everyone. These equipment – fitted with new inverters with WSI 100 and FILIUS COMPACT controls – represent a valid solution for anybody looking for all Medium Frequency benefits in both spotwelding applications and nut projection welding too.

MF 1040 and 1041 models allow to monitor the whole welding process every 1 ms (1000 Hz). The far faster MF 5020's, whose inverter operates at 5000 Hz, are able to even control the process every 0.2 ms.

- ▶ Lower round arm with adjustable height and lateral adjustment
- ▶ Electrodeholders with electrodes for spotwelding
- ▶ Lower arm can be lowered and adjusted for use with larger arm gap

UPON REQUEST ALSO AVAILABLE WITH:

- ▶ Different length arms (Optional)
- ▶ Lower arm with pressed-in electrode and a longer upper electrode holder (Optional) for welding pipes or similar items



WSI 100 CONTROL PANEL (MF 1040 - MF 5020)

The new WSI100 control panel with backlit graphical LCD display is very easy to use and to adjust.

- ▶ Preheating, welding and post-heating currents, up and down slope
- ▶ 64 welding programs
- ▶ Control up to 4 solenoid valves
- ▶ Current adjustment in percentage or constant current
- ▶ Limit value monitoring
- ▶ Weld counter



FILIUS COMPACT CONTROL PANEL (MF 1041)

- ▶ heating currents, up and down slope
- ▶ Start 1 and Start 2
- ▶ 2 solenoid valves and pre-stroke solenoid valve
- ▶ 32 welding programs
- ▶ Proportional valve output 0 – 10 V with pressure program
- ▶ Current adjustment in percentage or constant current
- ▶ Limit value monitoring
- ▶ Weld counter
- ▶ Program copy function via USB-stick

MF 140 – MF 180

Medium frequency (1000 Hz) MF 140 and 180 are particularly suitable for projection welding applications requiring high welding current and force and also for spotwelding special material and alloys to be joined with elevated currents and short welding time.

- ▶ High power spot and projection welding
- ▶ Lower platen adjustable in height and fitted, like the upper one, with T-slots, enabling the quick assembly of barholders, electrodeholders or any dedicated tooling for specific applications
- ▶ Platens gap is easily and quickly adjustable without any intervention on the secondary circuit
- ▶ Safety cycle start by means of the concomitant side buttons or, as alternative only if the operator can work in safe conditions, by electric pedal. Either option can be chosen by a selector with removable key
- ▶ Upper head linear low friction driving system for very precise welding
- ▶ Manual valve for upper head descent without pressure for cleaning, centering and ordinary maintenance of the electrodes
- ▶ Solenoid valve to stop water circulation whenever the machine is switched off from the mains supply



INTEGRATED CONTROL PANEL (A)

- ▶ 32 / 64 programs
- ▶ Constant current facility
- ▶ Limit current monitoring
- ▶ Preheating current
- ▶ Annealing current
- ▶ Linearized stepper function
- ▶ Two 24 V DC solenoid valves
- ▶ Proportional valve
- ▶ Weld/no weld switch
- ▶ Error message logbook
- ▶ Weld counter
- ▶ Main voltage compensation
- ▶ Single or multi spot
- ▶ Liquid crystal display



REMOTE CONTROL BY PERSONAL COMPUTER (B)

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|--|---|
| <ul style="list-style-type: none"> ▶ Network up to 56 machines ▶ 64 programs ▶ Constant current facility ▶ Limit current monitoring ▶ Preheating current ▶ Annealing current ▶ Linearized stepper function ▶ Two 24 V DC solenoid valves ▶ Proportional valve | <ul style="list-style-type: none"> ▶ Production monitoring ▶ Error message logbook ▶ Weld counter ▶ Mains voltage compensation ▶ Single or multi spot ▶ Stored data files ▶ Back up file ▶ Software |
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MF 1040 - 1041 - 5020			MF					
			1040	1041	5020	140	180	
	A	mm	435	435	435	400	445	
	A (Optional)	mm	650	650	650	650	650	
		mm	750	750	750	---	---	
	B	mm	---	---	---	445	490	
	C	MIN.	mm	180	180	180	145	200
		MAX.	mm	510	510	510	300	330
D	MIN.	mm	615	615	615	800	865	
	MAX.	mm	945	945	945	955	995	
		Ø mm	60	60	60	---	---	
		Ø mm	35	35	35	35	35	
		Ø mm	19	19	19	25	25	
	E	E	mm	---	---	---	180	200
		F	mm	---	---	---	180	200
		G	mm	---	---	---	63	63
		T		---	---	---	3	3

TECHNICAL DATA		MF				
		1040	1041	5020	140	180
Three phase input 50/60 Hz	V	400	400	400	400	400
Rated power at 50%	kVA	40	40	20	140	180
Installed power	kVA	40	40	40	60	80
Cross section connecting cables	mm ²	35	35	35	50	70
Delayed Fuse	A	63	63	63	100	160
Open Circuit Voltage	V	5,0	5,0	11,5	9,0	12,5
Short circuit current	kA	22	22	16	40	55
Max. welding current	kA	20	20	14	35	50
Thermal secondary current at 100%	kA	5,4	5,4	---	7,0	9,5
Work stroke	mm	65	65	65	100	100
Electrode force max 600 kPa (6 bar)	daN	470	470	470	900	1200
Water consumption a 300 kPa (3 bar)	l/min	6	6	6	20	20
Dimensions	↗ mm	1070	1070	1070	1115	1210
	→ mm	430	430	430	400	460
	↑ mm	1520	1520	1520	1650	1800
Weight	kg	260	260	255	530	850

Other voltages available on request

These power sources are built for industrial environment use. EMC (CISPR 11): class A