



DIRECT CURRENT THREE PHASE RESISTANCE SPOT/PROJECTION WELDERS

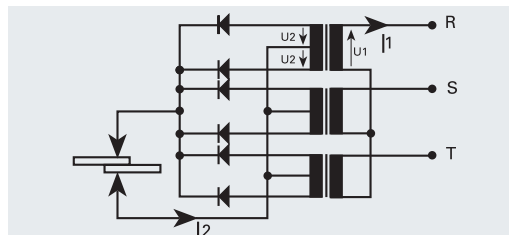
Suitable for both spot and projection welding, PPN 3F CC models fully meet the most sophisticated and toughest mass production industrial applications. Thanks to their features, they represent the ideal solution for resistance spot welding of aluminium and other material not easily weldable by conventional resistance equipment. Equipped with microprocessor control, concomitant safety side buttons and solenoid valve, upon request, they can be supplied with special controls in various configurations.



DIRECT CURRENT

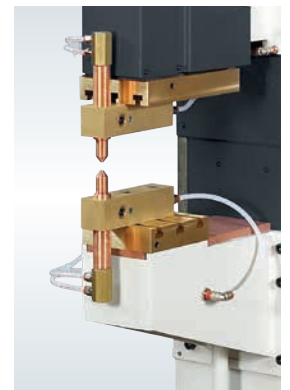
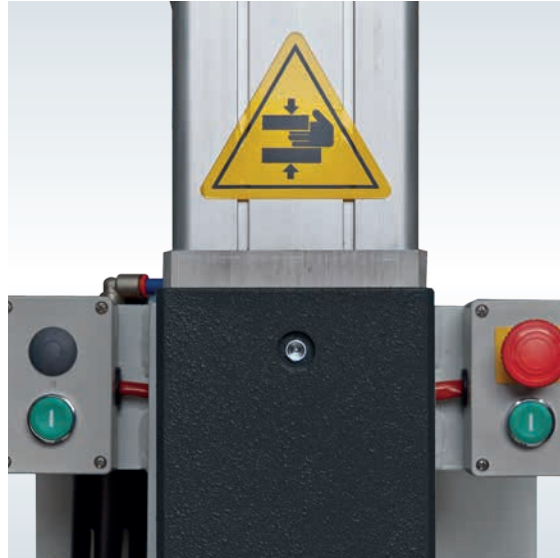
- ▶ High quality joints
- ▶ Large power for projection welding
- ▶ Large power for welding with increased arm lengths
- ▶ The presence of magnetic materials between the arms does not affect welding
- ▶ Long electrode life
- ▶ Highest efficiency
- ▶ Reduced welding time

3-PHASE MAINS SUPPLY



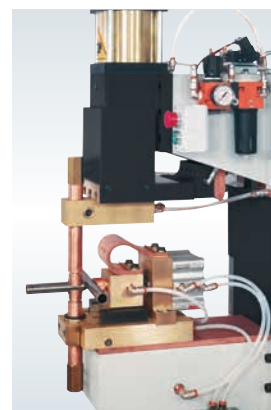
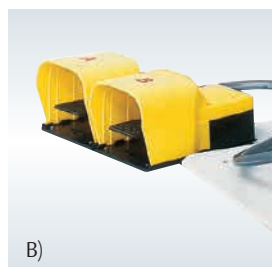
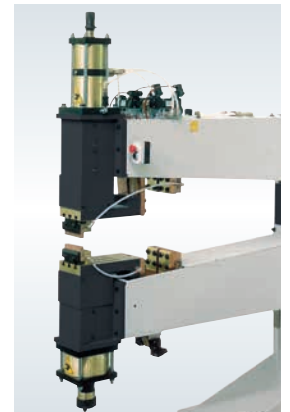
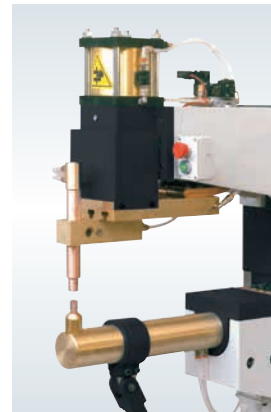
- ▶ Balanced power absorption on the three mains phases
- ▶ Low primary consumption
- ▶ High power factor and output
- ▶ Lower cost for electric power
- ▶ Water cooled secondary circuit to avoid electrical parts overheating
- ▶ Self-lubricated pneumatic components to eliminate oil deposits and to safeguard the environment from contaminants
- ▶ Safety cycle start by means of 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
- ▶ Cycle stop emergency button
- ▶ All the machines are supplied with lower platen adjustable in height and fitted with T-slots, enabling the quick assembly of barholders, electrodeholders or any dedicated tooling for each application

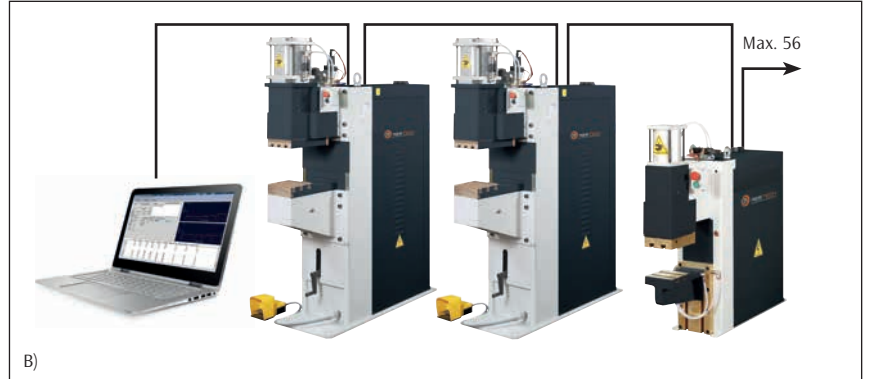
- ▶ Platens gap is easily and quickly adjustable without any intervention on the secondary circuit (patent pending)
- ▶ Upper head low friction linear driving system for very precise welding
- ▶ Manual valve for upper head descent without pressure for cleaning, centering and ordinary maintenance of the electrodes
- ▶ Solenoid valve to stop water circulation whenever the machine is switched off from the mains supply
- ▶ Suitable for applications requiring high welding power, such as mesh welding
- ▶ High welding quality and process reliability
- ▶ Synchronous ignition SCR group with phase shift welding current adjustment to eliminate initial transient
- ▶ Thermostatic protection on the SCR group
- ▶ Six phase rectifier bridge with diodes protected against overheating and overvoltage



OPTIONAL AND SPECIAL VERSIONS

- A. Adjustable double stroke cylinder
- B. Double set of concomitant side buttons and double pedal for 2 program welding cycles
- C. Welding program quick selector
 - ▶ Flowmeter stopping the welding process in case of insufficient water flow
 - ▶ Two step pedal for squeeze without welding and welding after pushing the second step
 - ▶ 0,5 bar low pressure solenoid valve for applications requiring so
 - ▶ Proportional valve to select and control two pressure levels



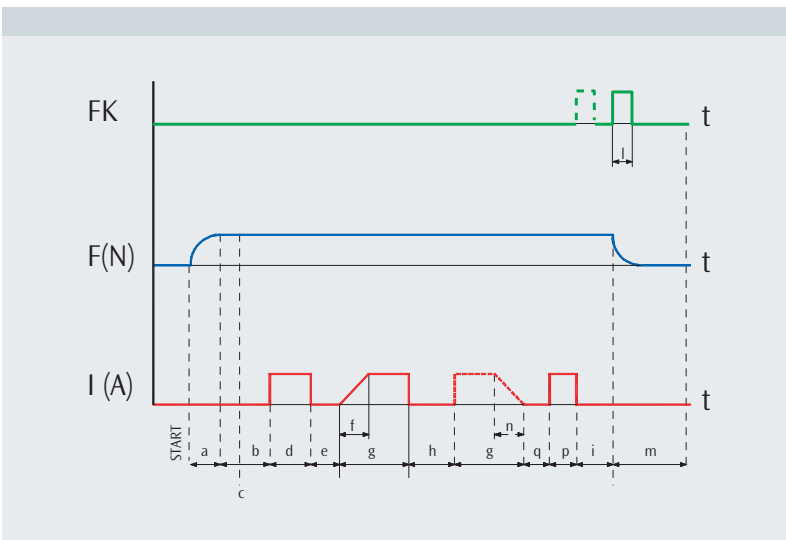


INTEGRATED CONTROL PANEL (A)

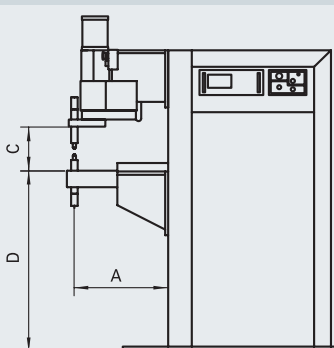
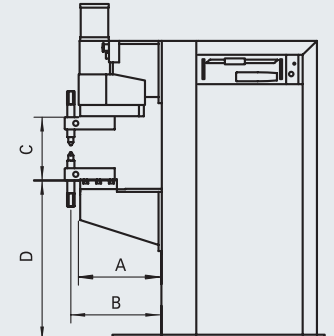
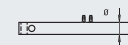

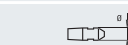
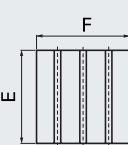
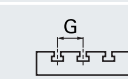
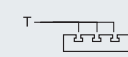
- ▶ 32 / 64 programs
- ▶ Constant current facility
- ▶ Limit current monitoring
- ▶ Preheating current
- ▶ Annealing current
- ▶ Linearized stepper function
- ▶ Two 24 V DC solenoid valves
- ▶ Proportional valve
- ▶ Weld/no weld switch
- ▶ Error message logbook
- ▶ Weld counter
- ▶ Main voltage compensation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

REMOTE CONTROL BY PERSONAL COMPUTER (B)

- ▶ 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
- ▶ Production monitoring
- ▶ Error message logbook
- ▶ Weld counter
- ▶ Mains voltage compensation
- ▶ Single or multi spot
- ▶ Stored data files
- ▶ Back up file
- ▶ Operating parameter software



FUNCTIONS		A - B
a	Pre-squeeze time	•
b	Squeeze time	•
c	Pressure contact	•
d	Preheating time	•
e	Cooling time	•
f	Slope up time	•
g	Welding time	•
h	Pulse interval time	•
n	Slope down time	•
q	Cooling time	•
p	Annealing time	•
i	Holding time	•
l	Cycle end contact	•
m	Pause time	•

PPN 100 3F CC		PPN 3F CC		100	160	260	360	460
	A	mm		500	445	445	445	445
	A (Optional)	mm		700	650	650	650	650
	B	mm		---	490	490	490	490
	C	MIN.	mm	235	200	200	200	250
		MAX.	mm	390	330	332	350	400
	D	MIN.	mm	900	852	852	900	942
		MAX.	mm	1055	982	982	1050	1092
		Ø mm		88	---	---	---	---
		Ø mm		35	---	---	---	---
		Ø mm		25	---	---	---	---
		E mm		---	200	200	250	250
		F mm		---	200	200	250	250
	G mm		---	63	63	63	63	
	T		---	3	3	4	4	

TECHNICAL DATA		PPN 3F CC				
		100	160	260	360	460
Three phase input 50/60 Hz	V	400	400	400	400	400
Rated power at 50%	kVA	100	160	250	350	450
Power at 100%	kVA	71	113	177	247	318
Short circuit power	kVA	560	716	878	1350	2200
Max. welding power	kVA	448	572	702	1080	1760
Cross section connecting cables	mm ²	50	70	95	120	2 x 120
Delayed fuse	A	160	200	250	300	400
Open Circuit Voltage	V	6,3	6,8	8	8,8	10
Short circuit current	kA	60	72	90	106	140
Max. welding current	kA	48	58	72	85	112
Thermal secondary current at 100%	mm	100	100	100	100	100
Work stroke	daN	900	1200	1880	2400	3600
Max. electrode force 600 kPa (6 bar)	l/min	20	20	20	20	25
Water consumption at 300 kPa (3 bar)	↗ mm	1480	1540	1540	1610	1610
	→ mm	430	480	480	530	530
	↑ mm	1800	1890	1890	2170	2300
Weight	kg	1100	1210	1300	1410	1800

Other voltages on request.

Technical features might change without notice.