

RESISTANCE **WELDING MACHINES**





ACT Automotive has been working in automotive industry to manufacture checking fixture, welding jig, special machinery and automated assembly lines since 2005. MACTERA trade mark was created for Resistance Welding and Riveting Machines at 2011.

Experienced and specialised engineering team of MACTERA serves customized machinery according to customer special requirements and products beside standard machinery about spot, projection, seam, wire and butt welding machines.

Each and every project requires unique approach and the MACTERA Engineering Team is highly focused on to analyse customer needs and expectations on the projects.

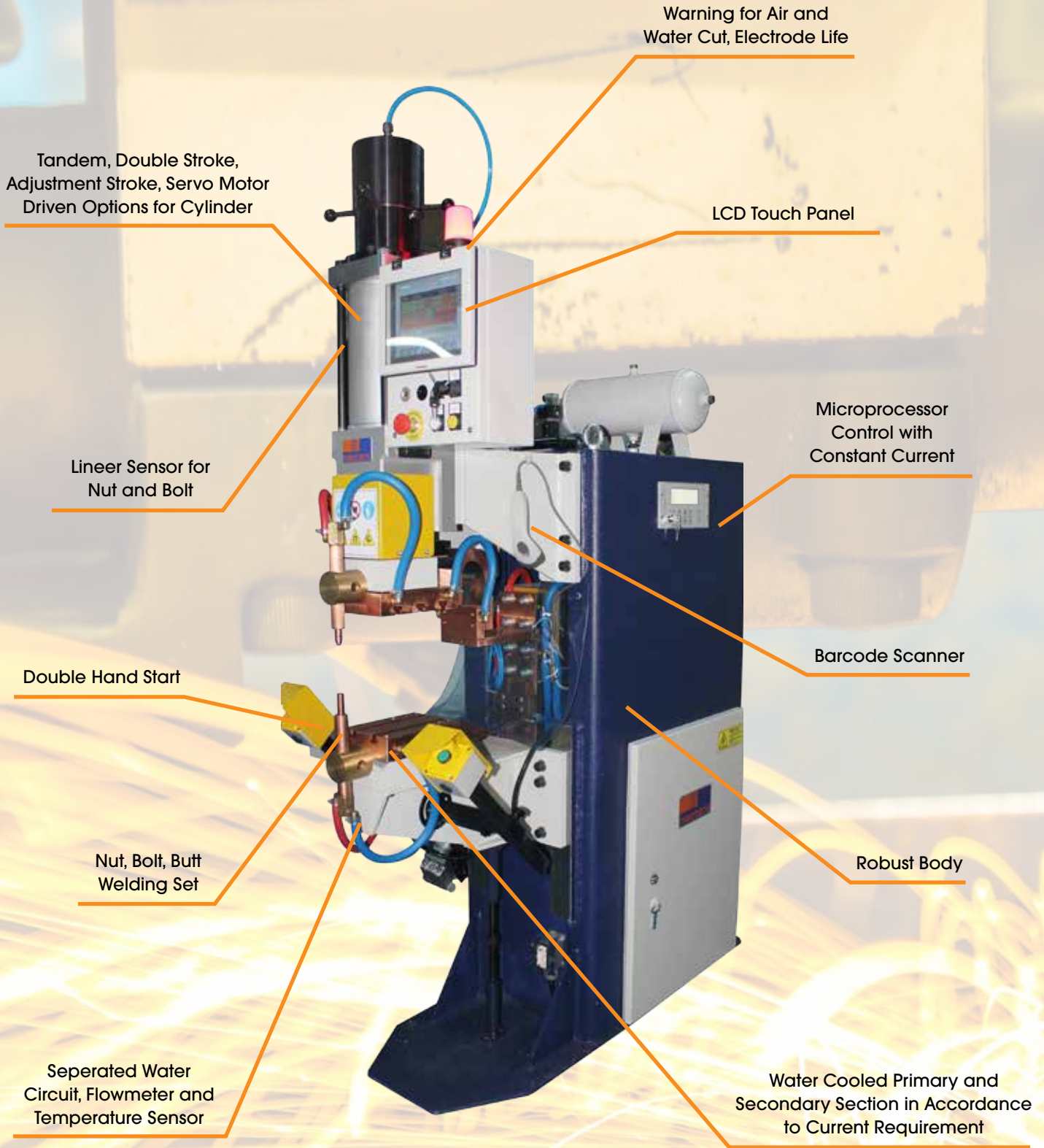
R&D team who created MACTERA are working on new technologies and solutions in R&D Office in Uludağ University Ulutek Teknopark.

Aiming to provide the most efficient and highest quality level of products MACTERA is in cooperation with most respected and well-known brands in welding Technologies in the World such as DENGENSHA, SAFCO, LASERVORM, UNITROL and SMK JAPAN.

Quality of MACTERA resistance welding machines have been approved by leading companies such as Mercedes Benz (Daimler), Toyota, Tofaş (FCA), Oyak Renault, Toyotetsu, Beyçelik Gestamp, Autoliv, Arçelik and Legrand.

MACTERA is not only a high quality welding machine producer, MACTERA is also an efficient service provider to its customers on training, spare parts provides and maintenance.





Warning for Air and Water Cut, Electrode Life

Tandem, Double Stroke, Adjustment Stroke, Servo Motor Driven Options for Cylinder

LCD Touch Panel

Linear Sensor for Nut and Bolt

Microprocessor Control with Constant Current

Double Hand Start

Barcode Scanner

Nut, Bolt, Butt Welding Set

Robust Body

Seperated Water Circuit, Flowmeter and Temperature Sensor

Water Cooled Primary and Secondary Section in Accordance to Current Requirement

SPOT/PROJECTION RESISTANCE WELDING MACHINE

SW MEGA



Standart Features

- 64 Program Microprocessor Control
- Constant Current Mode
- Acces to Welding Parameters by PC Connection
- Air Switch
- Flow and Temperature Sensor
- Double Hand Start
- Spot Counter
- Lower Arm Height Adjustment (700-1000mm)

Optional Features

- 256 Program Microprocessor Control
- Spot Welding Option
- Projection Welding Option
- Nut, Bolt, Butt Electrode Set
- Double Stroke Cylinder (60+40mm)
- Adjustment Cylinder (80+20mm)
- Servo Motor Driven
- Propotional Valve
- Hydraulic Balancing

Technical Data

50Hz AC		SW - 120 - 160 - SP - N - M	SW - 180 - 160 - SP - N - M	SW - 250 - 160 - SP - N - M
Single Phase Input 50Hz	V	400 AC	400 AC	400 AC
Rated Power (%50 duty)	kVA	121	180	247
Secondary Short Circuit Current (%50 duty)	kA	13,6	17,1	19,8
Secondary Voltage	V	8,9	10,5	12,5
Fuse	A	250	400	630
Electrode Force (6 bar)	daN	1200	1200	1200
Air Pressure	bar	2 - 6	2 - 6	2 - 6
Cooling Water Temperature	°C	18 - 21	18 - 21	18 - 21
Water Consumption (3 bar)	lt / min	12	15	15
Distance Between Projection Plates	mm	200 - 450	200 - 450	200 - 450
Throat Depth (Projection)	mm	300 / 400 / 500 / 600	300 / 400 / 500 / 600	300 / 400 / 500 / 600
Stroke	mm	100	100	100
Dimensions (W / L / H)	mm	600x1100x1800	600x1100x1800	600x1100x1800
Weight	kg	800	815	835

SPOT/PROJECTION RESISTANCE WELDING MACHINE

SW MIDI



Standart Features

- 128 Program Microprocessor Control
- Constant Current Mode
- Air Switch
- Double Hand Start

Optional Features

- Acces to Welding Parameters by PC Connection
- Spot Welding Option
- Projection Welding Option
- Nut, Bolt, Butt Electrode Set
- Double Stroke Cylinder (60+40mm)
- Adjustment Cylinder (80+20mm)
- Servo Motor Driven
- Propotional Valve
- Flow and Temperature Sensor
- Hydraulic Balancing

Technical Data

50Hz AC		SW - 30 - 100 - SP - N - M	SW - 60 - 125 - SP - N - M	SW - 80 - 125 - SP - N - M
Single Phase Input 50Hz	V	400 AC	400 AC	400 AC
Rated Power (%50 duty)	kVA	30	63	80
Secondary Short Circuit Current (%50 duty)	kA	6,4	10,2	10,4
Secondary Voltage	V	4,65	7,2	7,7
Fuse	A	80	160	250
Electrode Force (6 bar)	daN	470	735	735
Air Pressure	bar	2 - 6	2 - 6	2 - 6
Cooling Water Temperature	°C	18 - 21	18 - 21	18 - 21
Water Consumption (3 bar)	lt / min	8	8	8
Distance Between Projection Plates	mm	200	200	200
Throat Depth (Projection)	mm	300 / 400 / 500 / 600	300 / 400 / 500 / 600	300 / 400 / 500 / 600
Stroke	mm	100	100	100
Dimensions (W / L / H)	mm	600x800x1700	600x800x1700	600x800x1700
Weight	kg	450	670	690

MEDIUM FREQUENCY SPOT/PROJECTION RESISTANCE WELDING MACHINE

MFDC



Standart Features

- 64 Program Microprocessor Control
- Constant Current Mode
- Acces to Welding Parameters by PC Connection
- Propotional Valve
- Air Switch
- Flow and Temperature Sensor
- Double Hand Start
- Spot Counter
- Lower Arm Height Adjustment (700-1000mm)

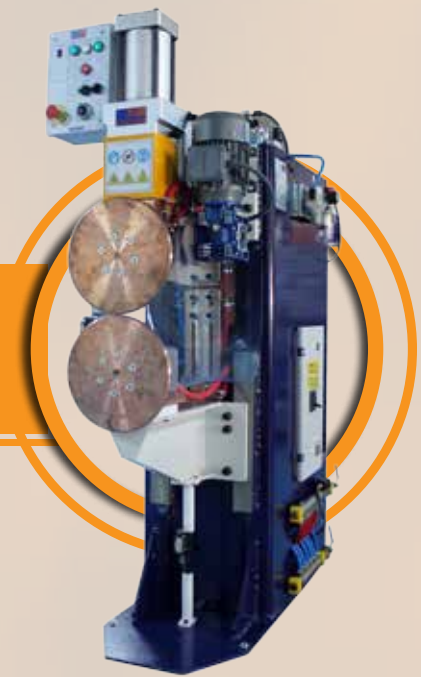
Optional Features

- Spot Welding Option
- Projection Welding Option
- Nut, Bolt, Butt Electrode Set
- Double Stroke Cylinder (60+40mm)
- Adjustment Cylinder (80+20mm)
- Servo Motor Driven
- Hydraulic Balancing

Technical Data

1000Hz MFDC		MFDC - 60 - 125 - SP - N - P	MFDC - 100 - 125 - SP - N - P	MFDC - 180 - 160 - SP - N - P
Single Phase 3 Phase Input	V	500	500	500
Rated Power (%50 duty)	kVA	60	112	190
Secondary Short Circuit Current (%50 duty)	kA	13,5	15,4	24,5
Secondary Voltage	V	7	11,5	12,3
Fuse	A	100	100	250
Electrode Force (6 bar)	daN	735	735	1200
Air Pressure	bar	2 - 6	2 - 6	2 - 6
Cooling Water Temperature	°C	18 - 21	18 - 21	18 - 21
Water Consumption (3 bar)	lt / min	12	15	15
Distance Between Projection Plates	mm	200	200 - 450	200 - 450
Throat Depth (Projection)	mm	300 / 400 / 500 / 600	300 / 400 / 500 / 600	300 / 400 / 500 / 600
Stroke	mm	100	100	100
Dimensions (W / L / H)	mm	400x800x1700	600x1100x1800	600x1100x1800
Weight	kg	650	720	720

SEAM WELDING MACHINE



DKE - Transversal

DKE1 - Top Driven

DKB - Longitudinal

DKE2 - Bottom Driven

DKE3 - Top & Bottom Driven

Standart Features

- 16 Program Electronic Control
- Flow and Air Sensor
- Air Switch
- Foot Pedal

Optional Features

- 64 Program Microprocessor Control
- Constant Current Mode
- Acces to Welding Parameters by PC Connection
- Servo Motor Driven
- Propotional Valve
- Double Hand Start
- Flow and Temperature Sensor
- Disc Dresser (Auto/Manual)
- Welding Jig

Technical Data

50Hz AC		DK - 120 - 125 - E - N - M	MFDC DK - 150 - 125 - E - N - M
Single Phase 3 Phase Input	V	400 AC	500 DC
Rated Power (%50 duty)	kVA	121	165
Secondary Short Circuit Current (%50 duty)	kA	13,6	16
Secondary Voltage	V	6,7 - 7,3 - 8,2 - 8,9	7,3 - 10,3
Fuse	A	250	250
Electrode Force (6 bar)	daN	180 - 750	180 - 750
Air Pressure	bar	2 - 6	2 - 6
Cooling Water Temperature	°C	15 - 25	15 - 25
Water Consumption (3 bar)	lt / dak	20	20
Distance Between Projection Plates	mm	100 - 350	100 - 350
Throat Depth (Projection)	mm	400 / 500 / 600	400 / 500 / 600
Stroke	mm	100	100
Disk Velocity	m / dak	Max. 7	Max. 7
Dimensions (W / L / H)	mm	550x1400x1800	550x1400x1800
Weight	kg	900	800

CAPACITOR DISCHARGE SPOT/PROJECTION RESISTANCE WELDING MACHINE

NDZ



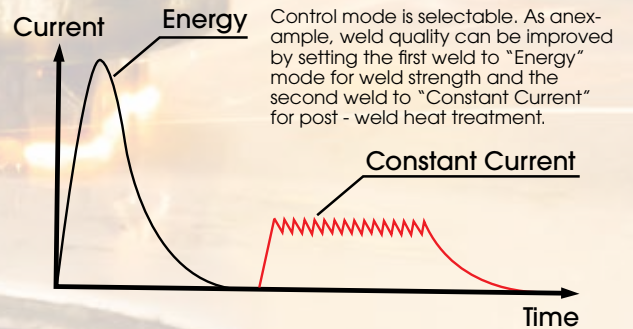
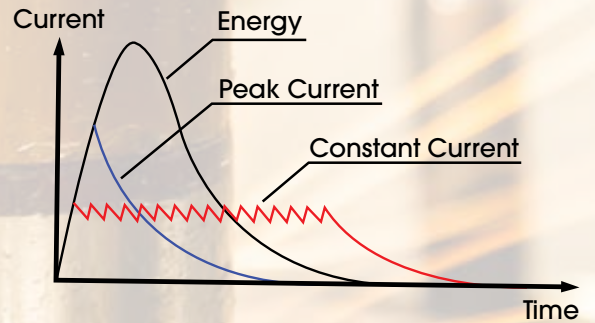
Power Supply : 200V, 6kA
Maximum Energy : 3000 joule
Short Circuit Current : 50kA

Three Current Control Modes
 - Energy
 - Peak Current
 - Constant Current

- Smaller footprint with cost - efficient compact design.
- Weld current as high as 50kA, yet requiring only a small 6kVA and 200V power supply (a step-down transformer provided).
- Unique selectable current control modes will enable fine tuning of weld quality.
- High current in short bursts allows minimum heat transfer and workpiece distortion.
- Consistent welding during unstable power supply conditions.
- Maximum energy output of 3,000 joule.
- Consistent current feedback standard.
- Ideal for welding small projection parts on high-strength steel.

Technical Data

Series Name	NDZ	NDZ Serisi
Weld Controls	CA 0	Kondansatör Deşarj
Throat Depth	4	400 mm
Electrode Force	6	6kN, (Ø60 Mum Tutucu, Ø25 Mum, Ø16 Elektrot)
	7	6kN, (Ø70 Mum Tutucu, Ø32 Mum, Ø20 Elektrot)
	8	6kN, (Ø70 Mum Tutucu, Ø32 Mum, Ø16 Elektrot)
	1	10kN, (Ø70 Mum Tutucu, Ø32 Mum, Ø20 Elektrot)
	A	10kN, (Ø70 Mum Tutucu, Ø32 Mum, Ø16 Elektrot)
Stroke	B	75 mm
	S	Punta
Application	N	Somun Projeksiyon
	L	Somun Var / Yok ve Hatalı Somun Kontrol Özelliği
	R	Otomatik Somun Besleme Özelliği
	B	Cıvata Projeksiyon
	M	Cıvata Var / Yok ve Hatalı Somun Kontrol Özelliği
	T	Otomatik Cıvata Besleme Özelliği
Specification	U	UL / CSA
	C	CE
Power Source	Y	200 V±15 % 50 / 60 Hz
Revision	A, B, C, D, ...	



BENCH TYPE RESISTANCE WELDING MACHINE

MP



Standart Features

- 16 Program Electronic Control
- Air Switch
- Foot Pedal

Optional Features

- 256 Program Microprocessor Control
- Constant Current Mode
- Acces to Welding Parameters by PC Connection
- Projection Welding Option
- Nut, Bolt, Butt Electrode Set
- Fast Cylinder
- Propotional Valve
- Flow and Temperature Sensor
- Servo Motor Driven
- Spot Counter

Technical Data

50Hz AC		MP - 30 - 63 - S	MP - 60 - 63 - S
Single Phase Input 50Hz	V	400 AC	400 AC
Rated Power (%50 duty)	kVA	30	63
Secondary Short Circuit Current (%50 duty)	kA	6,4	10,2
Secondary Voltage	V	4,65	7,2
Fuse	A	80	160
Electrode Force (6 bar)	daN	185	185
Air Pressure	bar	2 - 6	2 - 6
Cooling Water Temperature	°C	18 - 21	18 - 21
Water Consumption (3 bar)	lt / min	8	8
Distance Between Projection Plates	mm	160	160
Throat Depth (Projection)	mm	210	210
Stroke	mm	40	40
Dimensions (W / L / H)	mm	660x1400x1360	660x1400x1360
Weight	kg	167	200

ROCKER ARM RESISTANCE WELDING MACHINE

PP



Standart Features

- 16 Program Electronic Control
- Air Switch
- Foot Pedal

Optional Features

- 256 Program Microprocessor Control
- Constant Current Mode
- Acces to Welding Parameters by PC Connection
- Propotional Valve
- Double Hand Start
- Flow and Temperature Sensor
- Spot Counter
- Double Stroke

Technical Data

50Hz AC		PP - 30 - 125 - 5	PP - 60 - 125 - 5
Single Phase Input 50Hz	V	400 AC	400 AC
Rated Power (%50 duty)	kVA	30	63
Secondary Short Circuit Current (%50 duty)	kA	6,4	10,2
Secondary Voltage	V	4,65	7,2
Fuse	A	80	160
Electrode Force (6 bar)	daN	960	960
Air Pressure	bar	2 - 6	2 - 6
Cooling Water Temperature	°C	18 - 21	18 - 21
Water Consumption (3 bar)	lt / min	8	8
Distance Between Arms	mm	200	200
Throat Depth (Projection)	mm	200 - 600	200 - 600
Stroke	mm	100	100
Dimensions (W / L / H)	mm	600x900x1300	600x900x1300
Weight	kg	167	200

BUTT WELDING RESISTANCE WELDING MACHINE

BW



Standart Features

- 16 Program Electronic Control
- Air Switch
- Foot Pedal

Optional Features

- 256 Program Microprocessor Control
- Constant Current Mode
- Acces to Welding Parameters by PC Connection
- Servo Driven
- Double Hand Start
- Flow and Temperature Sensor
- Spot Counter

Technical Data

50Hz AC		BW - 30	BW - 60
Single Phase Input 50Hz	kVA	30	60
Rated Power (%50 duty)	kA	13	18
Welding Current (max)	kA	15	15
Secondary Voltage	V	2,9 - 3,3 - 3,8 - 4,4 - 4,8	6,3
Throat Depth	mm	10	10
Distance Between Eelectrodes (min-max)	mm	10	10
Stroke	mm	20	20
Air Pressure	bar	-	2 - 6
Electrode Force (min-max)	daN	80	100 - 300
Clamping Force	daN	200	200 - 600
Air Consumption (10mm Stroke-5 bar)	lt	-	1,17
Cooling Water Pressure (min-max)	bar	-	3 - 6
Cooling Water Temperature (min-max)	°C	15 - 25	15 - 25
Water Flow (min)	lt / min	4	5
Dimensions (W / L / H)	mm	550x370x1500	650x900x750

DEDICATED RESISTANCE WELDING MACHINES



SHOCK ABSORBER CLAVIS BRACKET PROJECTION WELDING MACHINE

2x300kVA MFDC Safco Inverter

SERVO DRIVEN SPOT/PROJECTION WELDING MACHINE

180kVA MFDC Safco Inverter



1100 MM THROAT DEPTH SPOT/PROJECTION WELDING MACHINE

200kVA MFDC Bosch Rexroth Inverter



DISWASHER BASKET PROJECTION WELDING MACHINE

250kVA AC Safco Timer



DEDICATED RESISTANCE WELDING MACHINES

SHOCK ABSORBER PIPE SPOT WELDING MACHINE

250kVA AC Dengsha Timer



GAS PIPE COVER WELDING MACHINE

60kVA AC Safco Timer

SHOCK ABSORBER PIPE SPOT WELDING MACHINE

125 kVA AC Dengsha Timer

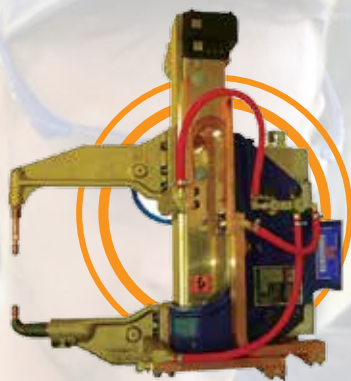


DOUBLE HEAD SPOT/PROJECTION WELDING MACHINE

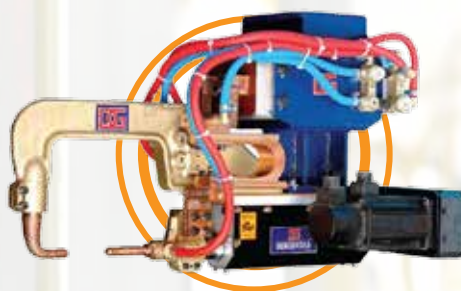
180 kVA MFDC Safco Inverter

LINEER MOTION GUNS

X TYPE GUN

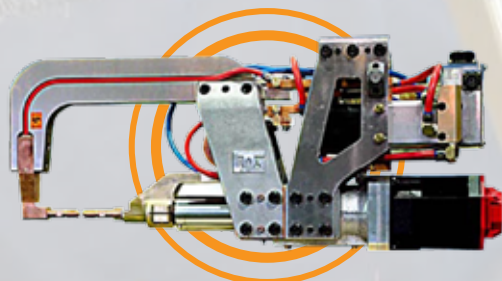


C TYPE GUN



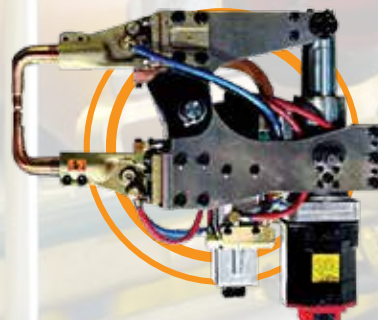
MFDC LIGHTWIGHT COMPACT SERVO GUNS

X TYPE GUN



Total Weight: 55 - 66 kg

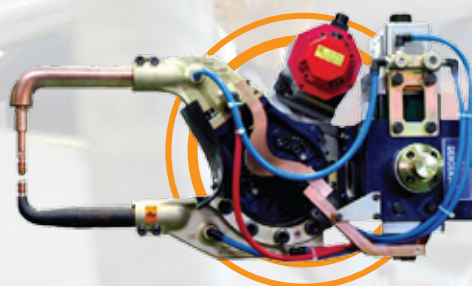
C TYPE GUN



Total Weight: 61 - 69 kg

REDUCTION GEAR GUNS

X TYPE GUN

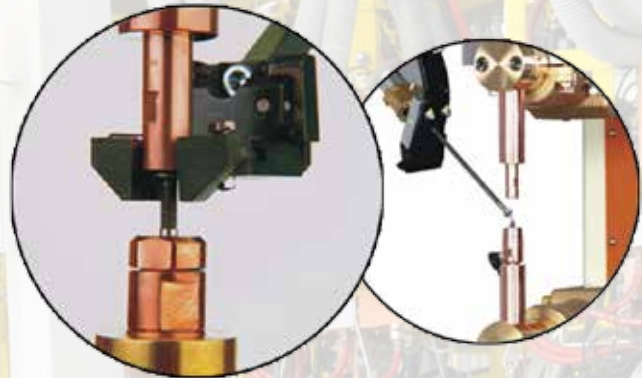


AUTOMATIC NUT - BOLT FEEDERS



ОПЕРАЦИЯ
РАБОТЫ

Сборка цикла (загрузка 1)
Болты (загрузка 2)



WELDING CONTROLS

RWC SERIES



NWC SERIES

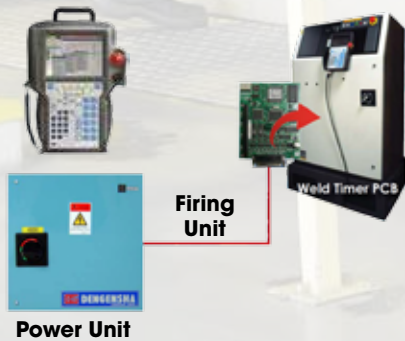


WELDING CONTROLS WITH INTEGRATED ROBOTS QUALITY ASSURANCE TOOLS

WS - 100



WELD TIMER PCB

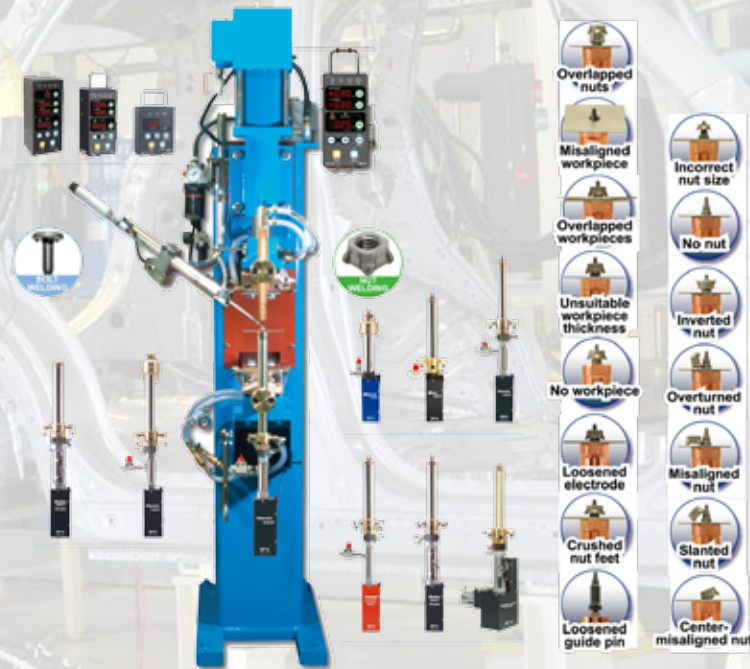


SAFCO

- Medium Frequency Transformers
- Inverters
- Welding Controls



SMK



- Poor Weld Detection System For Nut/Bolt Welding



Navi Series
Leads Global Standards
CE marking acquisition

UNITROL



- Pinch Point Safety System



SOFT TOUCH



REFERANCES





A.C.T. OTOMOTİV MÜH. DAN. SAN. TİC. LTD. ŞTİ.
NOSAB Erguvan Cad. No: 4E Nilüfer / Bursa / Türkiye
T: +90 224 241 26 31 - F: +90 224 241 26 33 - M: +90 542 789 16 00
www.mactera.com - info@mactera.com

ACT GmbH
Hagenbrücke 1-2, D-38100 Braunschweig
T: +49-531 242 87 25 - F: +49-531 242 87 20
nevzat.sargin@actautomotive.com

