



Get Perfect Weld... Everytime!

with Kirti spot & projection machines
and range of add-ons



Kirti

Innovation To Implementation

Our Products Spectrum



Welding Machines..... 4

Spot + Projection AC
MFDC for Small Parts
MFDC
MFDC Adaptive
High Frequency DC Spot
Mid Frequency AC
Battery Tab / Miniature Spot



Weld Nut Feeder..... 14 **Weld Bolt Feeder**



Weld Controllers..... 16

FORWEL Resistance Welding Controllers
MFDC Controller
MFAC Controller



Weld Quality Monitoring Systems..... 18

Monitech Weld Monitor WET-4000S
Weld Checkers -

- Monitech Handy Weld Checker
- Monitech Handy - for ARC Welding

Monitech Weld Waveform Analyzer



Add Ons & Accessories..... 20

Quality Module

Nut Location Pins

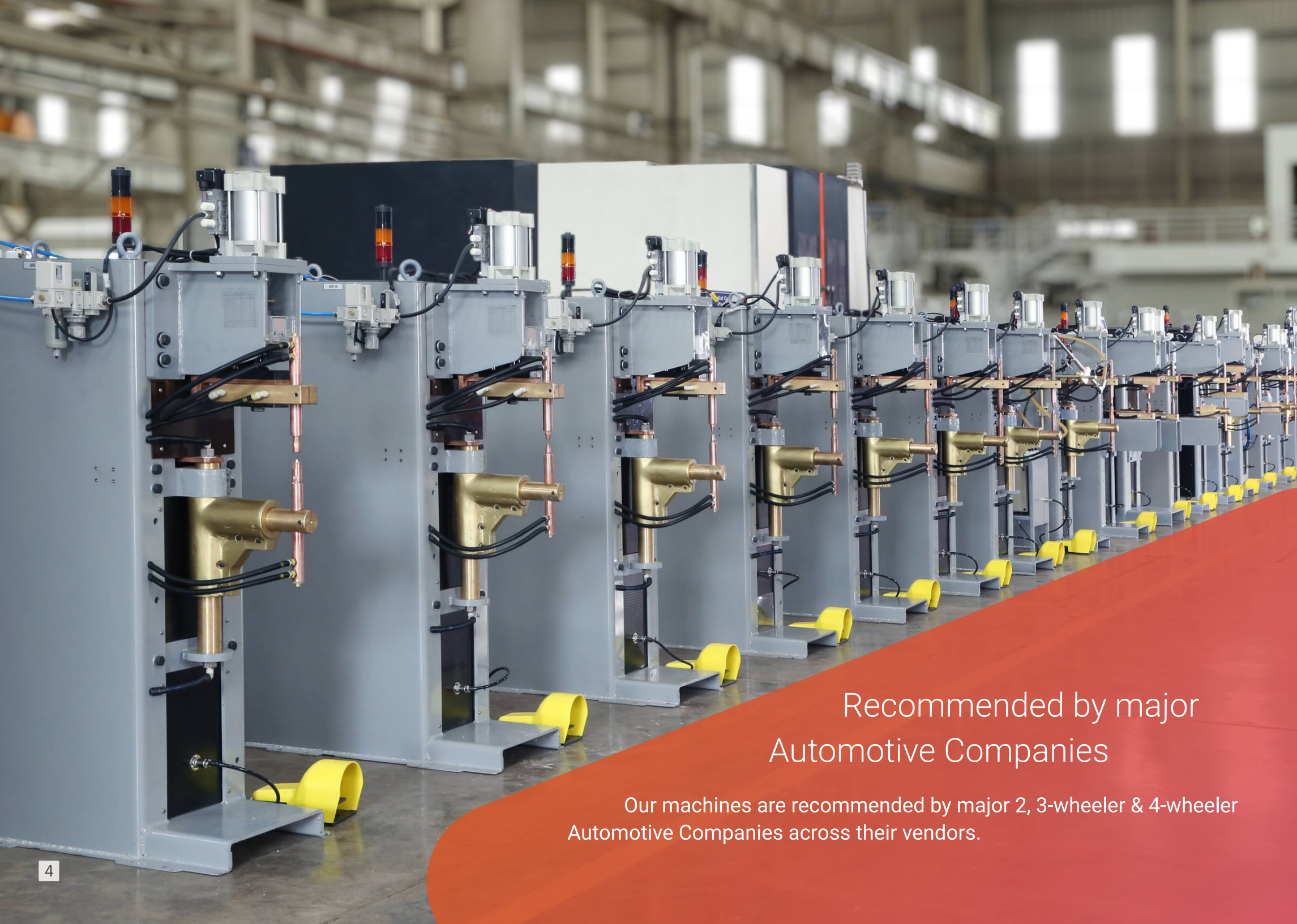
Nut & Spot Welding Electrodes

Handheld Tip Dressers

Weld Nut/Bolt Monitor

Digital Force Gauge

Robot Gun Tip Dresser



Recommended by major
Automotive Companies

Our machines are recommended by major 2, 3-wheeler & 4-wheeler
Automotive Companies across their vendors.

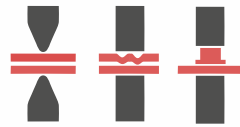
WELDING MACHINES

Kirti Machines Are Preferred For



**Sturdy,
No Vibrations**

10mm thick sturdy body.
Thick sheets bent and welded to form a sturdy body that does not vibrates and gives precise welds



**Spot +
Projection**

Same machine can be used for Spot welding as well as Projection welding



**Low Friction
High Speed**

Low μ technology reduces friction substantially, gives fast operating speed. Tested for 800 cycles/min oscillation at no weld



**Low & Easy
Maintenance**

Modular design and quick connect wiring harness make removal of assembly part easy



**Thermal &
electrical
stability**

New Specially Designed Thyristor gives higher thermal & electrical stability and high tolerance to external electrical/magnetic noise/pulse



**High
Duty Cycle**

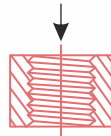
HighQ Transformer ensures high efficiency, low thermal losses & higher duty cycle

Advantage for Nut Welding

- High Breaking Torque
- Saves Cost



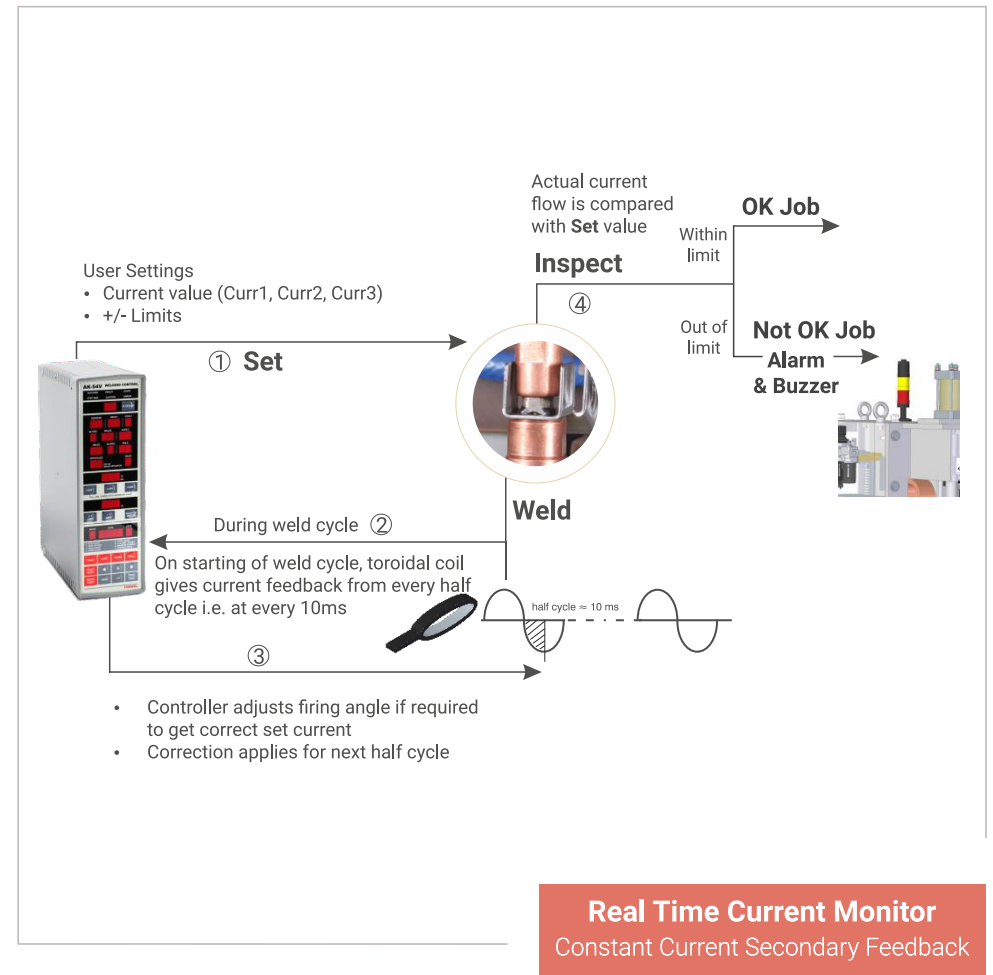
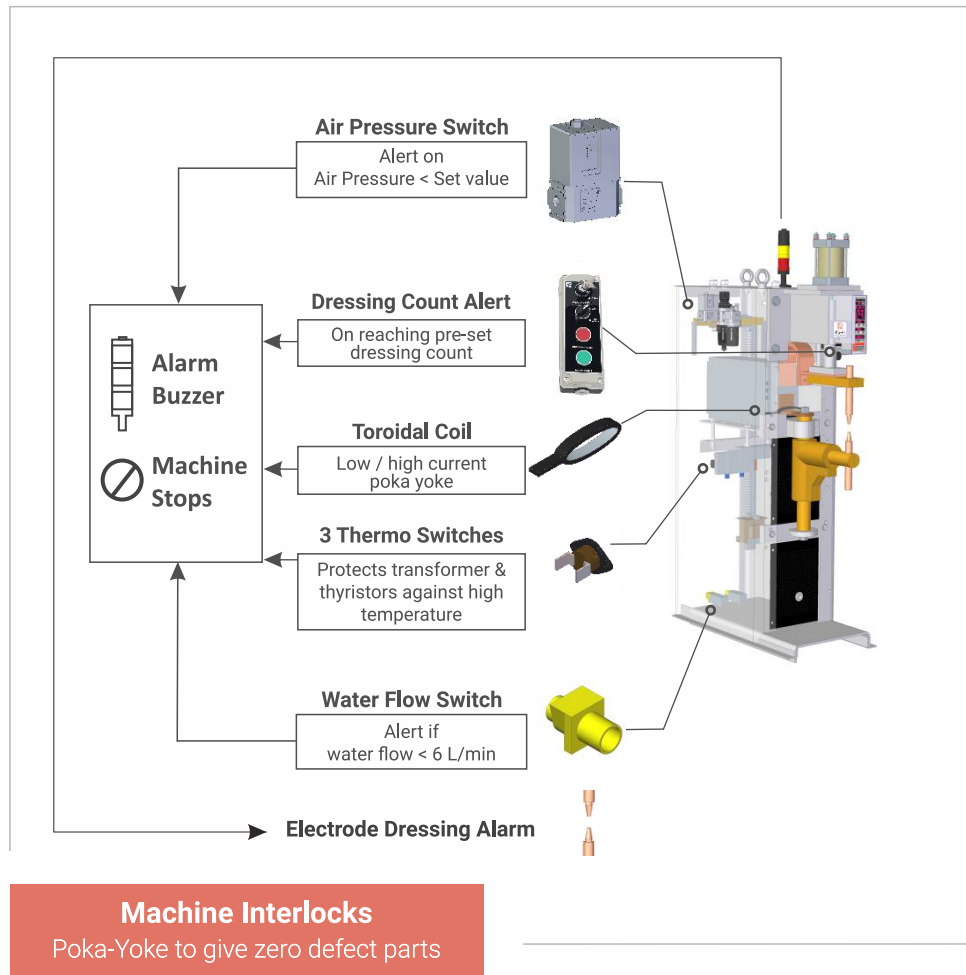
No Additional CO₂ Tacking Required



No Retapping Required

All Welding Machines are Available in **Elbow Type & Table Type**

Controlled Weld Ecosystem



SPOT + PROJECTION Welding Machine

with Forwel, Korea
constant current feedback controller

Specifications

Machine Specs	Unit	SS75I	SS100I	SS125I	SS150I
Rated Power at 60% Duty Cycle	kVA	75	100	125	150
Secondary Voltage	Volt	5.9, 7.4	6.5, 9	8.2, 10.2	12, 14
Welding Current Max	kA	15	20	24	30
Control Type		Secondary Feedback Constant Current Controller Forwel, Korea			
Welding Time Setting Least Count (W2)	ms	10	10	10	10
Throat Depth*	mm	250~300	250~300	250~300	300~350
Arm Gap Max**	mm	300	300	300	Customisable
Electrode Force Min-Max	kg-f	150 to 486	150 to 984	150 to 984	Customisable
Free Air Consumption @ 1bar for 100 Spots and 25mm Stroke	liters	157	314	314	314
Cooling Water Pressure **	kg/cm ²	2	2	2	2
Cooling Water Flow Rate **	L/min	6	6	6	6

Welding Capacity (Indicative Comparison)

Sheet Metal CRCA	mm	2.5/2.5	3/3	3.5/3.5	4.5/4.5
Sheet Metal HR	mm	2.5/2.5	3/3	3.5/3.5	4.5/4.5
E34	mm	1.5/1 ⁺	3/3	3.5/3.5	4/4
Sheet Metal SS	mm	4/4	4.5/4.5	5/5	6/6
Projection Nut Welding - Max Size		M8	M12	M16	M20
Dimensions	mm	1050 x 410	1050 x 410	1050 x 410	1200 x 510
Height	mm	1780	1780	1780	1840
Weight	kg	520	600	680	1100

*Throat Depth available upto 1200mm on request

**Special Arm Gap available on request

+ High Force Cylinder

++ Subject to change depending on configuration



- Higher kVA machines available on request
- Optional low cost voltage compensation control available

Also Available

- Spot Welding SPMs
- Seam Welding Machines

MFDC Welding Machine

for Switchgear Parts & New Energy Vehicle Parts

- Precisely adjustable welding force
- MFDC 1kHz machine specifically made for small parts
- Low Force Welding Head
- Inbuilt Direct Welding Force Measurement and Display

Specifications

Machine Specs	Unit	MFMI15	MFMI25
Rated Max Current @ 20% Duty Cycle	kA	8	15
Secondary Voltage	Volt	9	9
Control Type	1kHz Mid Frequency Direct Current with Secondary Current and Voltage Feedback (6kHz and 10kHz Models Also Available)		
Proportional Valve Output		Optional	Optional
Time Setting Least Count	ms	1	1
Throat Depth*	mm	100	100
Arm Gap Max**	mm	50	50
Electrode Force Max	kg-f	150	150
Cooling Water Pressure	kg/cm ²	6	6
Cooling Water Flow Rate	L/min	13	13
Water Chiller Required		Yes	Yes
Panel AC		Standard	Standard
Dimensions	mm	1050 x 410	1050 x 410
Height	mm	1640	1640
Weight	kg	420	480

*Special Throat Depth available on request

**Special Arm Gap available on request



MFDC / MFDC Adaptive Spot + Projection Welding Machine

- Teach Pendant included
- Smart Touch Screen Pendant - optional

Specifications

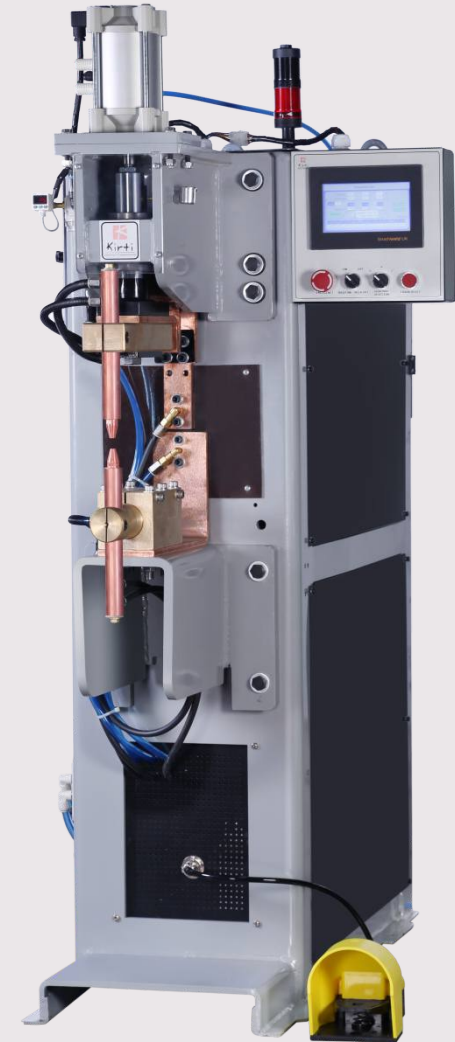
Machine Specs	Unit	MFDC15KA	MFDC25KA	MFDC35KA
Rated Max Current @ 20% Duty Cycle	kA	15	25	35
Secondary Voltage	Volt	6.9, 9	6.9, 9	9, 12
Welding Current Max	kA	20	30	40
Control Type		1kHz Mid Frequency Direct Current with Secondary Current and Voltage Feedback		
Proportional Valve Output		Optional	Optional	Optional
Secondary Current & Voltage Feedback		Standard	Standard	Standard
Time Setting Least Count	ms	1	1	1
Throat Depth*	mm	250~300	250~300	300~350
Arm Gap Max**	mm	300	300	300
Electrode Force Min-Max	kg-f	150 to 486	150 to 984	250 to 1250
Free Air Consumption @1bar for 100 Spots and 25mm stroke	litres	250	300	400
Cooling Water Pressure	kg/cm ²	6	6	6
Cooling Water Flow Rate	L/min	13	13	18
Water Chiller Required		Yes	Yes	Yes

Welding Capacity (Indicative Comparison)

Sheet Metal CRCA	mm	2.5/2.5	3/3	3.5/3.5
Sheet Metal HR	mm	2.5/2.5	3/3	3.5/3.5
Sheet Metal SS	mm	4/4	4.5/4.5	5/5
Projection Nut Welding - Max Size		M8	M12	M16
Dimensions	mm	1050 x 410	1050 x 410	1500 x 520
Height	mm	1780	1780	1820
Weight	kg	520	600	1100

*Throat Depth available upto 1200 mm on request

**Special Arm Gap available on request



Features

- 3 Phase balanced load, consistent power factor
- 1kHz operating frequency
- Optional adaptive control
- Secondary voltage, current and power control available
- Direct proportional valve output - optional

High Frequency DC (HFDC)

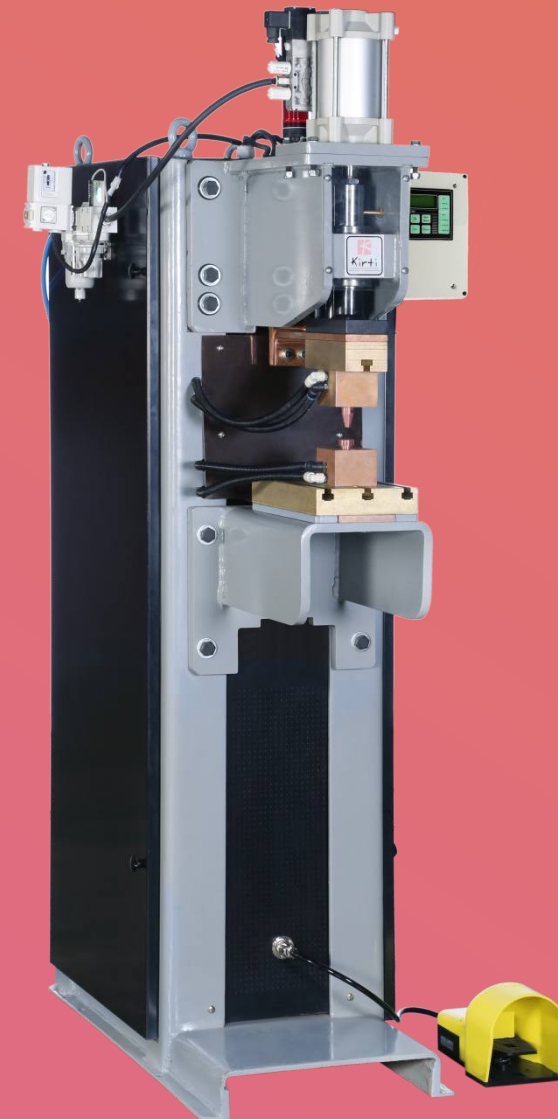
Welding Machine - 15 Khz

Features

- Time setting least count - 1ms
- Three phase balanced load
- Consistent power factor
- Higher efficiency demands low current
- DC secondary current
- Saves energy
- Current and voltage feedback
- No bulky transformers inside

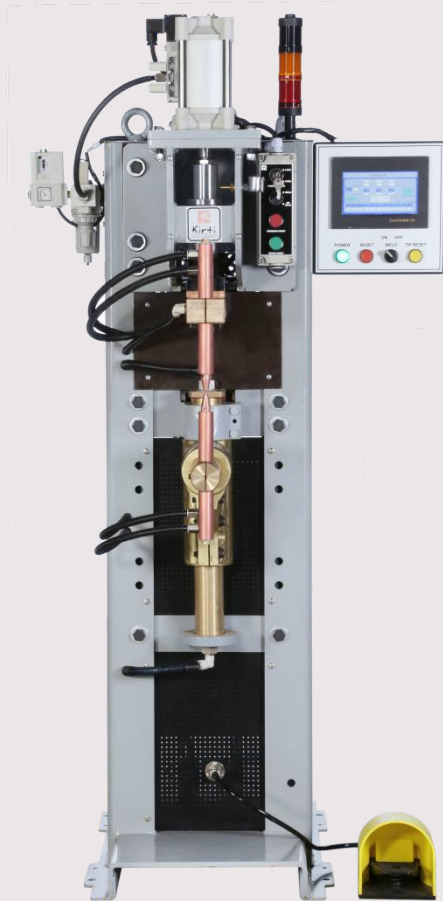
Available Models

Peak Secondary Current (DC)	Duty Cycle	Power Factor	Primary Voltage	Secondary Voltage	Water Chiller Required
8000 amperes	10%	1.00	440 Volt, 3 phase	7.5 Volt	Yes
12000 amperes	10%	1.00	440 Volt, 3 phase	15 Volt	Yes



Mid Frequency AC Machine

Spot + Projection Welding Machine



Features

- 3 Phase balanced load
- Adjustable output frequency
- Consistent power factor
- Power saving
- Low connected load

Available Models

Models	Equivalent to	Duty Cycle	Cylinder Force
15kA	75kVA	20%	upto 486kgf
19kA	100kVA	20%	upto 900kgf
24kA	125kVA	20%	upto 900kgf

Battery Tab / Miniature Spot Welding Machine

- Water cooled / Air cooled models available
- Parallel welding and Series Single welding models available



Parallel Welding Model

Applications

- Battery tab welding
- 18650 battery pack welding
- E-bike battery welding
- Mobile power bank manufacturing, etc.



Series Single Welding Model

Applications

- Miniature copper welding
- Thin gauge wire welding, etc.



10 mm thick body made sturdy by
CNC bending and welding

Laser cut body
Gives interchangeability of assembly parts

Cylinder head & brass elbow
Machining on HMC

Powder coated body



▲
**Manufacturing
Excellence**

Easy Maintenance



Quick Connect Wiring Harness with snap-on connectors

Easy removal of controller, thyristor
and other assembly parts

Also helps in fault finding



Weld Nut Feeder

Weld Bolt Feeder

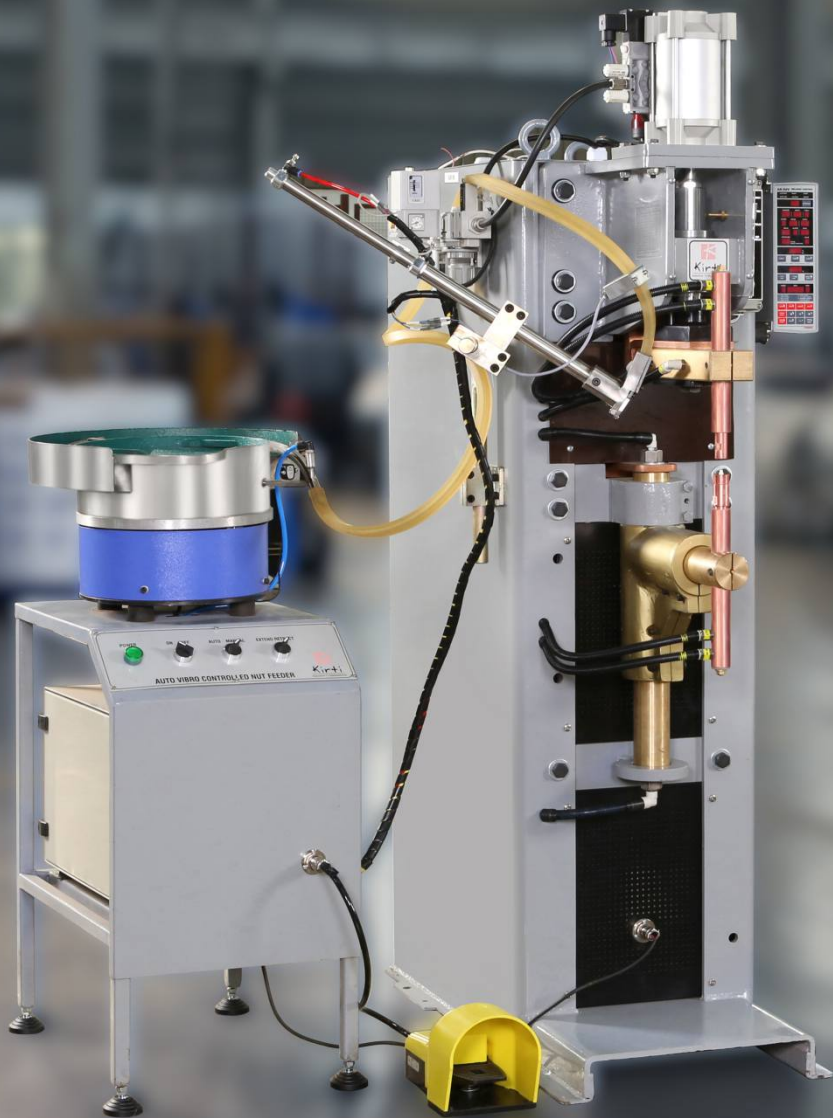


Nut / Bolt feeder is **in-house designed**. Being a Kirti product it is designed with customer centric practical approach which makes it **highly precise, sturdy, easy to maintain** all at the same time.

Various designs of feeder available according to different sizes and shapes of fasteners.

Features

- **2.5 times bigger** bowl
- **Feedback type vibratory controller** which sets vibrations according to number of nuts available
- Inertial nut feeding system – **superior performance and easy maintenance**
- Various **functions pre-programmed** in PLC
- **Precise placement** of nuts
- High feed rates up to **80 nuts/minute**
- Bowl design ensures only the **correct size nut gets passed**
- Can be easily fitted with nut hopper



Specifications

Models Available	M5, M6, M8, M10, M12 each nut / bolt needs separate feeder. Also available for special nuts and bolts.
Bowl Size	300mm diameter stainless steel bowl with special coating
Feeding Capacity	50 to 80 nuts per minute
Cylinder Stroke (Shooting Unit)	150mm or 200mm
Vibratory Bowl Controller	Closed Loop Feedback type with vibration sensor
Control system	PLC with inbuilt display
Input Voltage	AC 220 V +/- 10%, 50/60 Hz
Dimensions	1100mm (H) x 460mm (L) x 440mm (W)
Weight	100Kg
Maximum Input Current	3 Amperes
Pressure	0.6Mpa (6 Bar)
Air Supply Tube	10mm internal diameter spatter proof tubing
Nut Manager	Optional

Controller

FORWEL

Constant Current
Resistance Welding Controller
with inbuilt Monitor Function

Perfect for achieving best results in your Projection Nut Welding,
Seam Welding and Spot Welding applications.



AK-54 - Vertical & Horizontal

Features



Smart Weld Monitor gives **100% certainty of welded spots**



Controller supplies stable welding current by **secondary feed-back constant current** method



Spot and Seam welding can be controlled using same controller



Controller can **easily retrofit** to the existing machine



Linear Stepper Function available as standard for electrode wear compensation



Multiple weld schedules for varied thickness on the same job can be set



Electrode dressing alarm



Spots per job reminder alarm

- Parts of different thickness can be weld in the same welding sequence by calling multiple weld schedules. 15 weld schedules can be set.
- External schedule select
- Controller has self-adjustment for maximum current
- Data acquisition software - optional
- Printouts of welding schedules, real-time & of errors
- Small footprint

*Under recommended conditions

RS485 network (optional)

- Welding data logger (fcom_v2.0) software collects welding data from each controller at real time & can be stored in excel file on computer.
- One PC can be linked to maximum 32 units.
- Weld current data and scheduled data for each controller can be seen & printed.
- Real time monitoring for welding defects.

Models & Specifications

Type	Controller	Control Power	Valve Output	Mounting	Networking Capability
Secondary Feedback Resistance Welding Controller	AK-54	220v AC	Relay Output	Vertical & Horizontal	Rs485/RS232
Secondary Feedback Resistance Welding Controller	SK-54	90~220v AC	Relay Output	Vertical & Horizontal	Rs485/RS232
Voltage Compensation Type Resistance Welding Controller	SK-24	90~220v AC	SSR Output (220vAC)	Vertical & Horizontal	Not Available
Three Phase DC Controller	AK-32	220v AC	Relay Output	Vertical	Not Available

Accessories

- Toroidal Coil 450mm or 600mm (compatible for Ak54 & Sk54)
- Remote Teach Pendant

Other Controllers Available

- MFDC Controller
- MFAC Controller



SK-24 - Vertical & Horizontal



Weld Quality Monitoring Systems



Real Time Weld Monitor ► Monitech WET-4000S



Specifications

Measuring Range	AC, DC, Inv. DC, Capacitor Discharge (possible to measure upto 200kA)
Input / Output	7 digital output + 7 digital input
Network SW	Support upto max 25 units
Input Power	AC 220V / 50~60Hz

Models also available for MIG and TIG weld monitoring

Features

- Measures AC, 3 Phase Rectified DC, Mid Frequency DC, Capacitor Discharge Welding
- Data Traceability management
- One click report
- Data Analysis Software available on demand

Accessories



Current Sensor



Voltage Sensor Clips



Weld Checkers



◀ Handy

- Current, Voltage and Force of resistance welding can be measured in one equipment
- Measurement data stored in SD memory
- Exclusive Data Viewer Software included
- Inverter DC, AC, Condenser DC, etc. are measurable
- Multi-pulse Current is measurable by each pulse



◀ ARC Welding Checker

- Current, Voltage for ARC Welding can be measured in 1 equipment
- Measurement data stored in DC Memory

▶ Insulated Force Sensor

Force sensor does not get damaged on accidental current flow through sensor



▶ Weld Waveform Analyzer

- Real-time waveform analysis of ARC/ Resistance/ SAW/ TIG/ PLASMA Welding
- Inbuilt software for Waveform analysis
- Additional interlink with High Speed Camera is possible
- Current, Voltage, Force/ Wire Feed Speed/ Air Pressure/ Gas Pressure



Add-ons & Accessories

Accessories



Electrodes

A full line of Standard Electrodes. The sizes range from the full size straight to caps and buttons. Manufactured from high quality copper alloy bar stock.

Ceramic Nut location pins

Kirti Ceramic, KCF and Si3N4 Nut Location Pins are available in sizes M5, M6, M8, M10 and M12. These nut location pins prevent current bypass.

Handheld Tip Dresser



Weld Nut/Bolt Monitor

Prevents welding of wrong size nut/bolt, reverse nut, missing nut, and wrong bolt height. Improper fusion detection & data storage is optional.



Quality Module

- Displays Alarm from Controller on LCD display
- Separate LED indication and text for each Alarm / Error
- Two temperature sensors available

Display Measuring Units -

- Water flow in L/min
- Temperature value in °C



Digital Force Gauge



Robot Gun Tip Dresser

It does simultaneous dressing of both upper and lower electrodes.





Kirti Advantage *beyond products*

Consultancy & Job Validation at our Lab

Machine selection service for
new parts

Technical knowhow support
on spot welding

Part evaluation for
weldability at our lab

Our love for engineering drives who we are and what we do...

Kirti is now more than three decades young in the industry and has always been known for Expertise and Product Engineering Excellence. We live by the legacy...

Constant updation of technology, in-house innovation culture supported by advanced electronics R&D center and customer centric approach has gained us a long list of esteemed clients.

Kirti Pressings Pvt. Ltd.

Innovation to Implementation





You will be in good company

Our Clientele



Kirti Pressings Pvt. Ltd.

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