

Capacitor Discharge (CD) Projection Welding Machines



**70% lesser power.
Runs on Genset.
Welds without black marks.
Can weld dissimilar metals.
and there's more...**

Over 1500 companies from 16 diverse industries use Artech's capacitor discharge welding technology to make better products and greater profits. See how it can make difference for you.



Leading the way in Capacitor Discharge welding, since 25 years!

Indian Market Leader. Specialist. Partner.



Milestones

1994	Launched full line of CD Projection Welding Machines (1 to 30 KVA)
1998	Winner of the prestigious CMTI-PMT Trust and FIE Foundation Awards
2005	Launched CD Stud and Drawn Arc Welding Machines; 1000+ Installations across markets
2007	Developed specialist machines for new applications such as hollow metal door components, consumer goods, diamond segment welding
2010	Launched Shear connector machines for the construction industry
2016	Client base expands to 1500+ , spread in over 15 diverse industry segments; 3000+ Installations

Going Forward....Launching CD Projection Welding Machines with 40,000+ joules, advanced controls and automation

Beyond welding.
Technology that improves
your product.

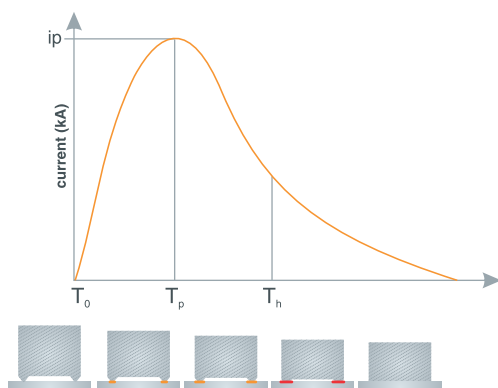
Clean welds.
Distortion free.

Capacitor Discharge Welding.

Current up to 200,000 A.

Weld time of less than 10 milliseconds.

70% lesser power requirement, compared to conventional projection welding, remains the most important advantage of Capacitor Discharge welding.



T_0 = start to power discharge
 T_p = peak current i_p
 T_h = $1/2 i_p$

Conventional welding needs high power, drawn from the mains, to perform the welds. Capacitor Discharge Welding technology, on the contrary, stores the electrical energy from mains in Capacitor Banks, to perform the welds. This stored electrical energy, discharged during the welding through pulse transformers, enables Capacitor Discharge welding machines to operate with significantly lower KVA, while delivering very high current.

Capacitor Discharge (CD) Projection Welding

In CD Projection Welding the weld area and location is pre-defined by giving a small projection (1 to 4 mm) on one of the weld components. During welding, the projection collapses under the electrode pressure and very high current passing through the electrodes fuses the metal to create the joint. With weld time of less than 10 milliseconds and focused discharge of weld energy, the heat does not conduct beyond welding area leaving the welded parts clean and distortion free.

The CD Projection welding can be performed on a multiple projections, simultaneously. The work-pieces are pressed at the projection using pneumatic/hydraulic or servo motor drives.

Technical Specialties

- Consistent current delivery
- Heating and fusion only at the actual welding area
- Delivers current up to 200,000 A
- No effect on welding quality due to normal voltage fluctuations



Benefits every industry

Advantages

The best in aesthetics

No black marks, spots or distortions. Just clean and beautiful welds.

Significantly lower Kva

Up to 70% savings in power, for every weld that you do.

Freedom from post weld processes & costs

Save time and costs with no need for post weld processes, whatsoever.

Totally leak proof welds

Trusted for leak-proof welding for most critical applications across multiple industries.

Requires no water cooling

With no heating of electrodes, the need for water cooling is eliminated reducing costs of electrode and fixture maintenance.

Run it on Genset. Yes!

Lesser demand for input power means machine can run on 3-phase power supply.

Weld dissimilar surfaces

Strong, clean joins even for all surfaces similar or dissimilar

Lower day-to-day running cost

Lowest operating costs with minimal maintenance and significantly lower power consumption

Weld heat sensitive parts

Minimal heating and lowest welding time enables welding of heat sensitive parts with ease.

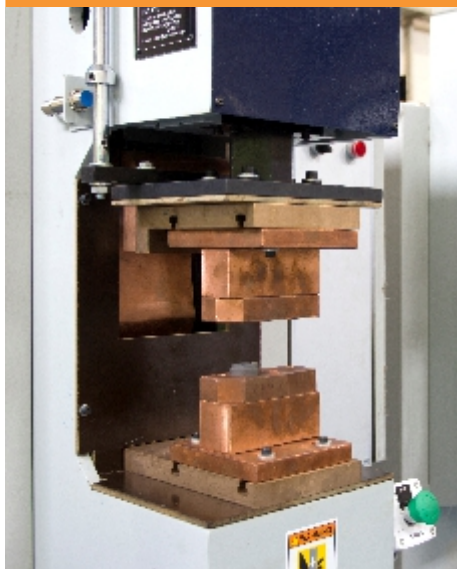
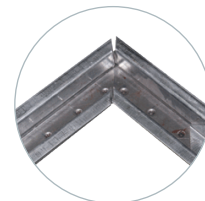
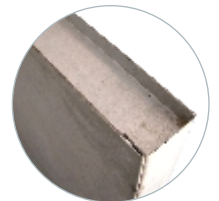
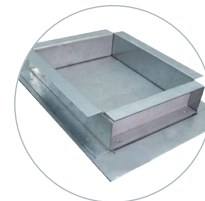
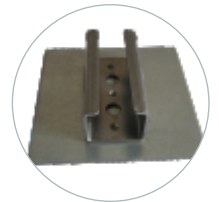
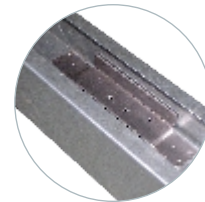
Consistent current delivery

With no effect of normal voltage fluctuations



Hollow Metal Door

- End C channel welding
- Anchor plate welding
- Vision panel welding
- Hinge reinforcement welding
- Stiffener welding
- Lock re-inforcement welding



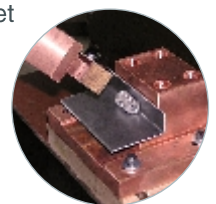
Diamond Segment Welding

- Diamond segment welding on cup wheel
- Diamond segment welding on core drill



Control Panels

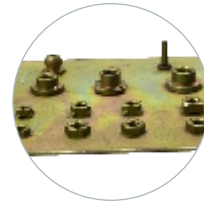
- U-type hinge projection welding
- Nut welding on panels
- Projection welding of bracket





Automobile

- Fuel Tank Ring Welding
- Oil Filter Top Plate Welding
- Rotor Fan Welding
- Seat Component Welding
- Shock Absorber leak proof Welding
- Sintered Pulley
- Stabilizer Bar Welding
- Window Regulator/Seat Adjusters
- Braided Copper Wire Welding
- Projection Nut/Bolt Welding



Pump Industry

- SS Impeller
- SS Diffuser



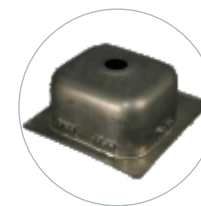
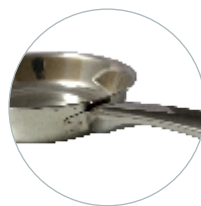
Leak Proof Welds

- Bush welding
- Semiconductor
- SS round nut welding
- Oil port welding
- Shock Absorber
- SS tube welding on solid SS cube/sheet



Stainless Steel Cookware & Kitchenware

- Double wall coffee-mug handle welding
- Stainless steel mounting bracket welding
- Stainless steel knob welding
- Handle welding on cookers
- Peg measure welding



Semiconductor Devices

- Thyristors
- Carbon Brush Assembly
- Relays
- Switchgear Components



Other Industries Served: White Goods, Electrical and Electronics, Elevators and many more....

Capacitor Discharge Projection Welding Machines

Extensive Range. Customised.



10 KVA



15 KVA



30 KVA

Artech offers advanced and highly capable range of products that serves vast range of applications with 500 to 40,000 wattseconds/joules. In addition to standard machines, Artech has developed over 100+ tailor-made CD Projection welding Machines to suit the specific needs of various applications.

Industry Leading Features

- Compact, ergonomic designs
- Digital, Micro-controller based controls
- Preset weld programs for multiple jobs
- Password protect for changing weld parameters
- Weld quality monitoring for each weld (peak current, peak time, RMS current and half-peak time)
- Total weld counter (no-reset)
- Lap counter with preset/reset options
- Built-in voltage surge protection
- Fault history with time stamp

KVA	Joules	Throat Depth (mm)	Throat Height (mm)
1 KVA	1000	100	170
5 KVA	3500	150	240
7 KVA	5500	150	240
10 KVA	7500	150	240
15 KVA	9500	240	240
20 KVA	14500	240	240
30 KVA	19500	240	240



1 KVA

Key Projects

Welding limits. Redefined.

Artech's team of Application engineering experts is always excited to take-up new and demanding challenges in CD Projection Welding. Whether it involves welding a highly critical part, difficult-to-weld component, welding dissimilar metals setting, Artech delivers a new benchmark in quality and productivity.

Each tailor made machine has successfully redefined the limits of welding for the applications.

Rotor Fan Welding Machine

Artech's CD Projection welding ensures unparalleled weld quality achieved through special weld electrodes and in-built systems for Poka-yoke.



Yoke to pole welding machine

Equipped with Poka-yoke

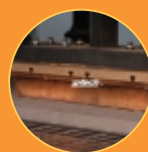
- Current Monitoring
- Set-down monitor
- Force Change
- Part presence sensors
- Rejection bins

Facility to
monitor
Live Data
Feed



Specialized Stiffener Welding Machine for Floor Tiles

- Servo driven mechanism to feed stiffener plate
- Specialized electrode design to hold stiffener
- Multiple welds in one shot
- Current monitoring and part presence sensor



Expertise and commitment.

Innovation. Excellence. Results.



From indigenous development of India's first Capacitor Discharge Welding Machine to global recognition, advancing the technology frontiers has always been Artech's driving force.

Artech's innovative machine designs coupled with manufacturing excellence has helped companies to create unparalleled results in welding productivity and quality. Backed by strong application engineering, CD Projection Welding Machines from Artech, are particularly recognized to deliver years of accurate and consistent performance.

Capabilities

Design.

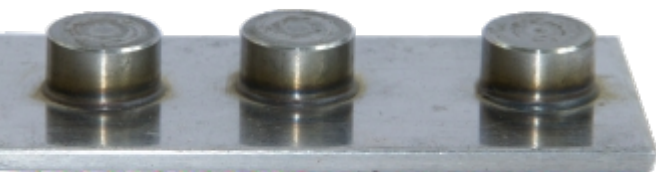
Artech's Machines are designed and built on advanced 3D Modelling software solutions by a Team with combined expertise of 100+ years in developing solutions for CD Projection Welding applications.

Applications.

Serving probably the most diverse range of applications in Capacitor Discharge Welding technology, Artech has an impeccable success record across industries as well as markets.

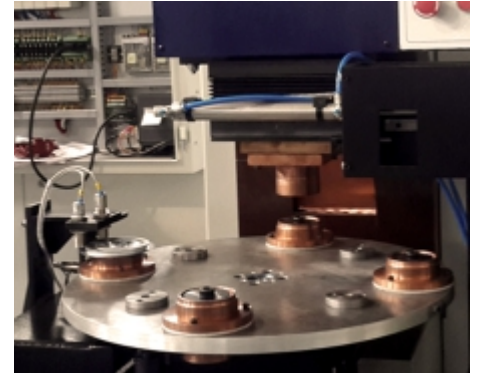
Manufacturing.

Located in Pune, Artech's facilities are spread across three units, and include highly evolved capabilities and systems to manufacture world-class machines.



Productivity boosters.

Tooling. Automation.



Projection Geometry.

The projection geometry, on components to be welded, is key to quality and productivity of Capacitor Discharge Welding. Artech's team studies your product and provides all the assistance required in developing the best projection geometry to achieve the desired productivity and quality goals.

Electrode Design.

Artech's team of Application Engineers design and develop specialized electrodes to hold and weld the job with highest efficiency. The electrodes also ensure highest safety for workmen and the component being welded.

Automation.

Artech delivers an end-to-end automation solution to boost the productivity of CD Projection welding process. Automation solutions includes automated servo driven movement, feeding, clamping/de-clamping of weld components and other innovative component handling solutions as per your need.

Artech. Partner in Success.

Switch to CD Projection Welding. Easy. Efficient.

Artech's expert team has helped hundreds of companies to start-up with or upgrade to CD Projection welding in their applications. With a time-tested approach and deep expertise in joining technology, Artech's application engineering team takes complete ownership to prove the quality for your products and ensure easy adaption of CD Projection Welding.

Artech's long-standing relationship with several of its customers spans across decades and serves as testimony to its partnering spirit.

From modifications in machines to changes in your product design, the Application Engineering team makes valuable suggestions to create previously unavailable benefits for your business.



Prompt. Nationwide Support.

Affordable.
Reliable. Available.

Artech's team of Service Engineers is fully geared to provide specialist support for its irreplaceable technology.

With nationwide presence through residential engineers, advanced tools to register and track service requests and a highly knowledgeable services team, Artech offers prompt and accurate solutions to your problems.



Startup



- Operator training
- Support production staff to monitor quality

Maintenance.



- Quick support to resolve critical issues
- Routine preventive maintenance

Productivity.



- Expert support for productivity enhancements
- Machine/process/component configuration for optimum productivity

Refurbishments.



- Repair and refurbish support for your old machines

Spares.



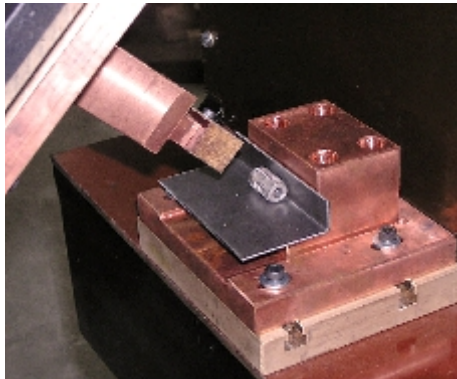
- Dedicated team for spares support
- Assured availability of spares at lowest price

Need help to shift to better welding?

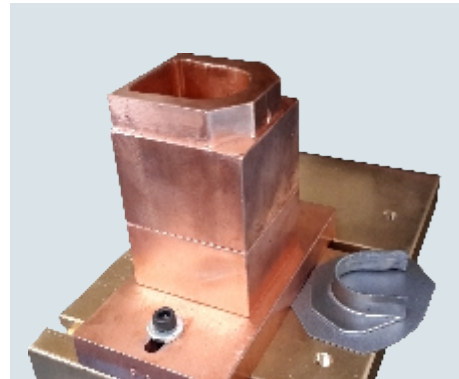
Starting from assessing suitability of projection welding to proving the component with your end customers, Artech's Application Engineering team will help you at every step, Get in touch with us, now!

- Free trials to prove your welded components
- Selecting the best Machine design & related automation
- Quality, testing and proving the welded components

Some examples of Specialized Welding Applications



Hinge welding in Control Panels with CD Projection Welding Machines



Machine to perform CD Projection welds on components used in two-Wheeler



CD Projection Welding Machine with specialized electrodes to weld components in Hollow Metal Doors



Deep Throat CD Projection Welding Machine to weld specialized sheet metal components



CD Projection Welding Machine with automated feeding to weld Stiffener on fire door panels

Trusted by Everyone


Market leaders.
Early adapters.

Trusted equally by world's largest companies as well as specialist product/component manufacturers, Artech's CD Projection Welding Machines export to several growing markets, across the globe.



artech
Trusted World Over

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