

VOLTAGE REDUCING DEVICE

Location	Qty(Nos.)	Measured Voltage (Without VRD)	Measured Voltage (With VRD)
Mechanical Shop	2	83V	15.6V
Raw Mill	4	90V	16V
Kiln	2	110V	14.4V
Cement Mill	2	80V	20V

Sr. No.	Description	Details
1	Supply Voltage	440 Volts AC
2	Phase of Machine	3 Phases
3	Frequency	50 Hz
4	Indication Lights	Welding ON - Red Power ON - Green
5	Sensing Circuit	Voltage sensing
6	Off OCV Sensing Voltage	15-20 V
7	Reduced Voltage in Non-Weld Stage	15-20 VDC
8	Connection Points	Incoming supply of welding plant to be connected through the connector
9	Starting After Stoppage	Instantaneous
10	PCB	Connector Type
11	Bypass Switch	Should be provided

Auto Power-Off | Heat Reduction | Instant Start-Up

Our Customers include Steel Projects, Process Industries, Cement Plants.
It is said Safety is invaluable but here is a chance to recover the
Investment in more ways than one.



Manufacturers Of Energy Saving Devices

**AUTOWELD VRD —
ENGINEERED FOR SAFETY.
DESIGNED FOR EFFICIENCY.**



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WHY AUTOWELD ENERGY SAVER?

Welding is an intermittent process with significant idle time, during which machines are rarely switched off as it's impractical. However, even when idle, welding machines draw power to cover transformer no-load losses—typically 3 to 12 Amps per phase, amounting to 0.8 kW to 1.8 kW per idle hour.

Idle running can account for up to 70% of operation time, with an average of around 50%, leading to major energy wastage.

Parameter	Value
Machine Rating	600 Amps
Phase	3 Phase
No Load Current	5 Amps
No Load Consumption Calculated	$1.732 \times 415 \times 5 \times 0.5$
	1.796 KW
	1.8 KW
Idle Time (50% Load/Unload per Shift)	4 hrs
No Load Consumption per Shift	$1.8 \text{ KW} \times 4 \text{ hrs}$
No Load Consumption per Shift	7.2 Kwh
Savings (Electricity Tariff @ Rs 7.00/unit)	7.2 x 9.20
Savings per Shift	Rs. 66.24/ shift
Savings per Year (300 Working Days)	Rs. 19872/year
Payback Period	4 to 5 months

The Autoweld Energy Saver eliminates this by automatically switching off the welding machine during idle periods and instantly powering it back on as soon as welding resumes — without affecting the welder's workflow.

Compatible with DC Welding Rectifiers (including Thyristor types) and AC Welding Transformers (including oil-cooled models).



SPECIFICATIONS OF AUTOWELD ENERGY SAVER

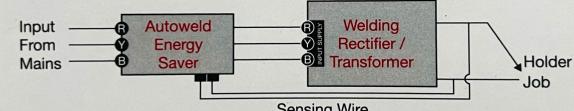
No.	Item	Specification
1	Supply Voltage of Autoweld	440 Volts
2	Phase of Welding M/c	3 Phase
3	Frequency	50 Hz
4	Ambient Temp	0–50°C
5	Indicators	
	→ Power On	Green
	→ Welding On	Red
6	Off Delay after stoppage of Welding	Adjustable up to -60 seconds
7	Connection	From mains supply to the machine
8	Starting after Stoppage	Automatic Instantaneous

AUTOWELD VOLTAGE REDUCING SAFETY DEVICE (VRD)

While energy-saving devices are now common, a new safety innovation — the Voltage Reducing Device (VRD) — is gaining importance. Welding machines typically have an open circuit voltage of 80V DC (Rectifiers) and 100V AC (Transformers), which can be hazardous, especially in wet conditions or with poor insulation.

Such high voltages combined with current can cause severe injuries like electric shock and ventricular fibrillation. Safe levels are considered to be 35V DC and 25V AC. During idle times, the welder may be unaware of the hidden danger. In Humid / Wet Conditions the welder may get grounded if he touches/ comes in contact with the voltage across the job and holder . This may cause defibrillations in the heart leading to heart failure. The VRD automatically reduces no-load voltage to a safe 12–20V, limiting current to just 12–20mA — even if the welder is fully wet and grounded — minimizing any risk of serious shock. With rising safety concerns and increasing incidents globally, Steel plants, cement industries , product industries, projects driven industries, chemical plants, shipyards and other process industries have made VRDs mandatory across all sites. In India, their use is growing across shipyards and cement industries. Autoweld not only meets VRD safety standards but also delivers significant energy savings.

Schematic Diagram for fitting of Autoweld Energy Saver cum VRD Device.



*Calculation is done as per the rate in Maharashtra in 2025