

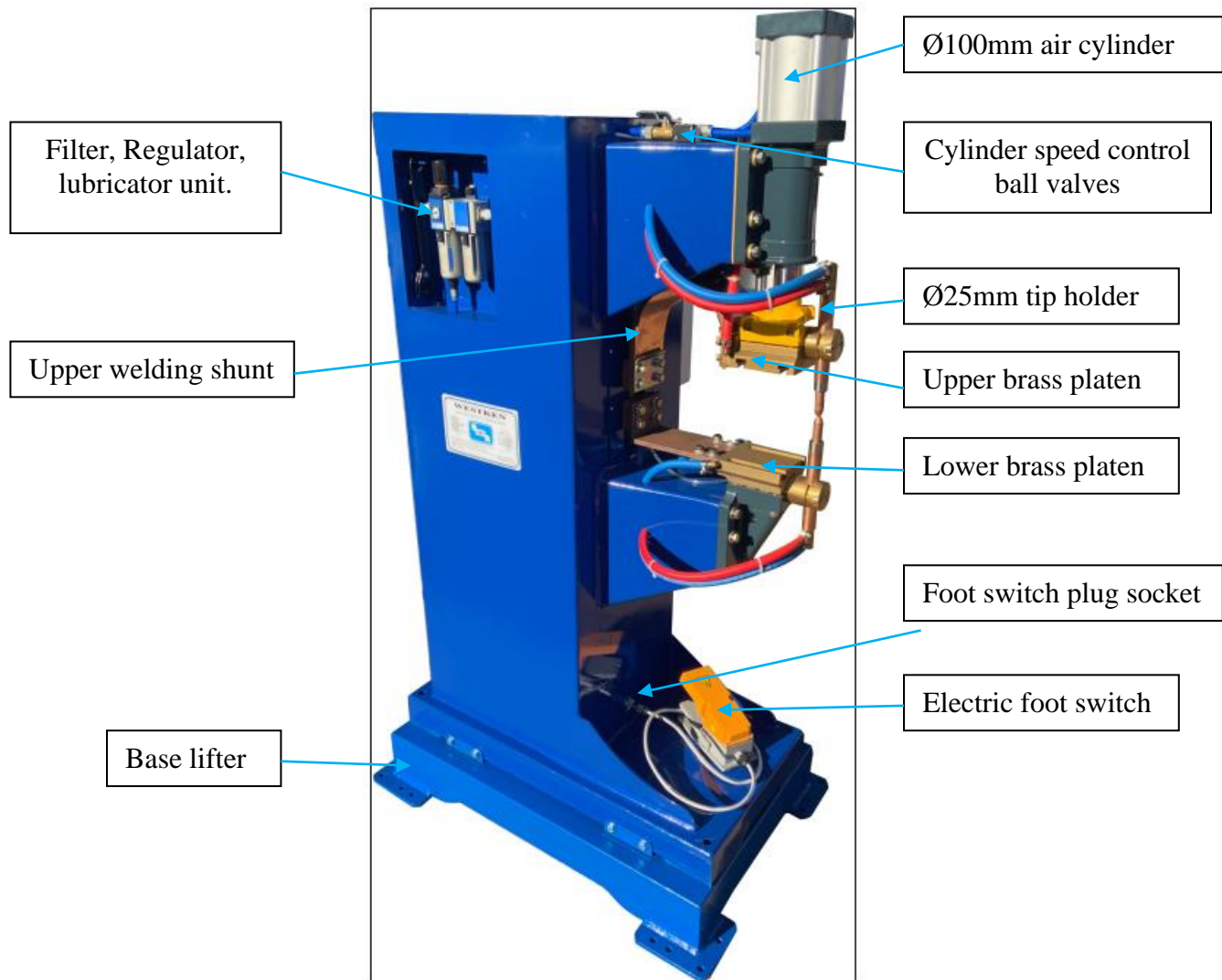


WESTKEN

THE WEST KENNETT CORPORATION

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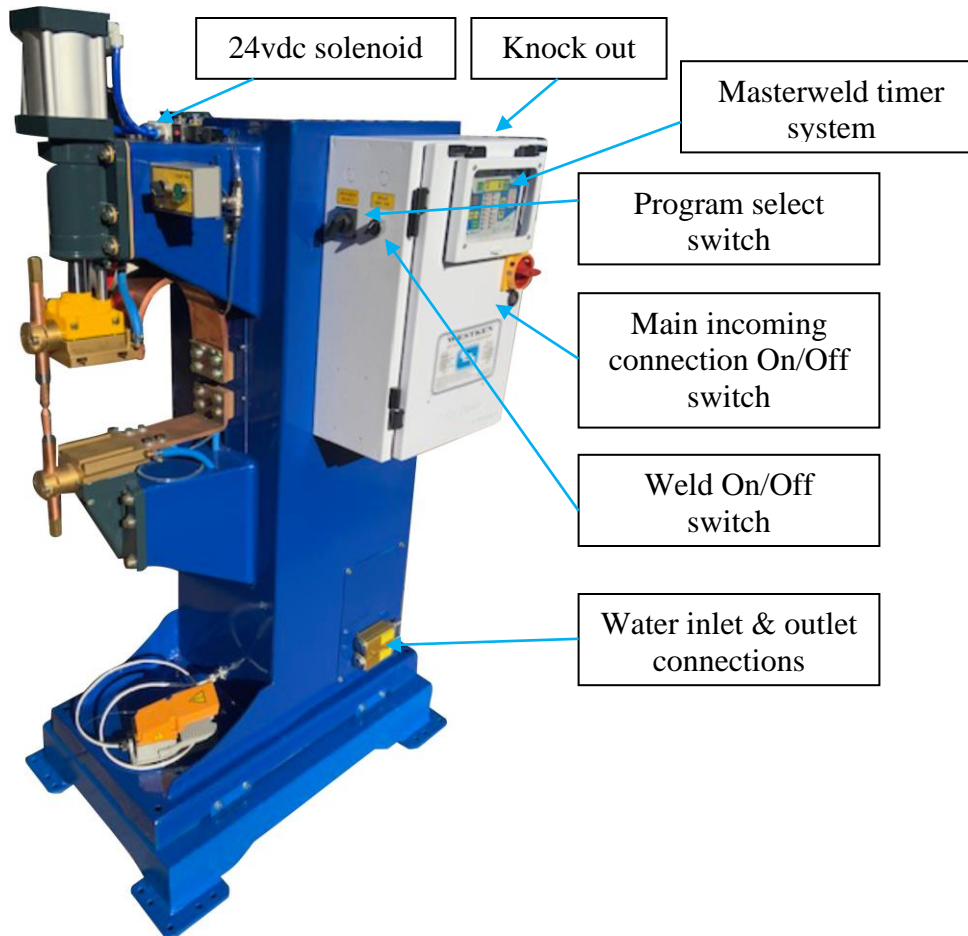
“ECONOAIR” 70KVA, AIR OPERATED SPOT/PROJECTION WELDER



The pneumatic operated 70kVA “Econoair” spot/projection welding machine is a 380v/50hz machine using two phases and an earth from a three phase and earth supply. This machine is rated at a 20% duty cycle. The machine is our medium duty air operated spotwelding machine. This machine is a combination machine with the ability to spotwelder or projection weld using the platens within the machine jaws. The machine is supplied on a base lifter.

This machine, depending on arm/tip/platen layout, delivers approx. 17500amps into the welding area. Pneumatic cylinder is 100mmdia with a max tip pressure of 350kg and a maximum stroke of 60mm.

Westken, 190 van Eden crescent, Rosslyn, Pretoria, South Africa.
www.westken.co.za (Tel; +27 12 541 2188/9 or +27 12 541 6064/5)

GENERAL MANUAL FOR 70KVA ECONOAIR PNEUMATIC WELDING CONTROLLER

The machine is standard with its fixed lower platen height of approx. 950mm & 400mm throat depth. The 1000mm working tip height is adjustable. Footprint 600mm wide x 1020mm deep x 1580mm high.

The machine is used in the Automotive, general, and white goods industry.

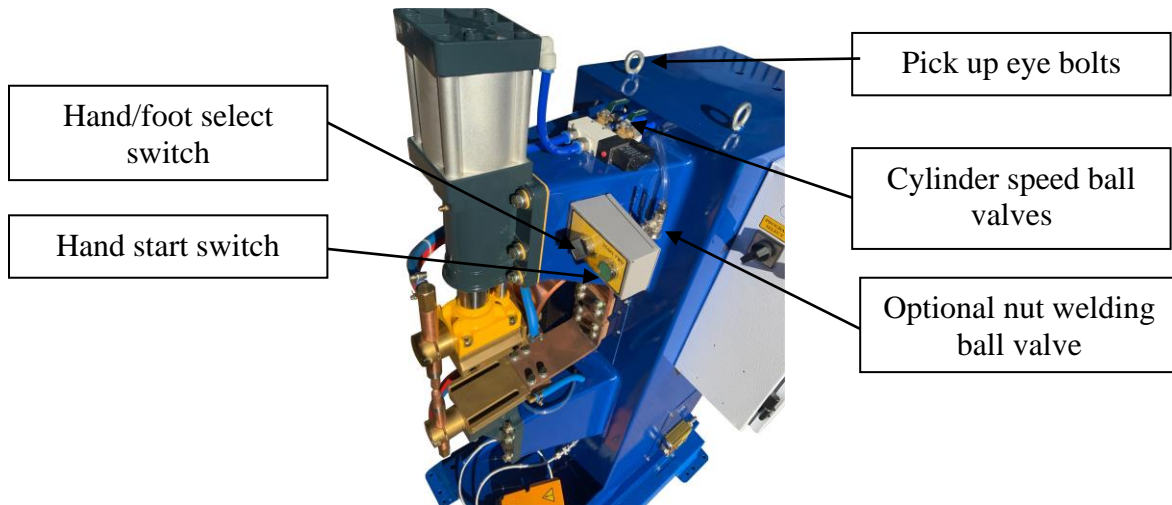
The machine is fitted standard with our mini panel “Masterweld” Digital timer control system with heat/current and time setting using thyristor transformer switching. A rotary cam on/off switch is fitted standard to the machine. The two electrical phases are connected to the rotary switch.

The machine is a 70kva (380v) with a thermo protected water cooled encapsulated transformers. Standard Ø16mm x MT2 taper Tips, water cooled Ø25mm tip holders. The arms are Ø54mm brass. Approximate platen size is 110mm x 110mm top and bottom platens. Minimum water flow for this machine should be not less than 20l/min at 3bar supply with a 1.5bar pressure drop over inlet to outlet.

The machine is a general purpose spotwelder. The machine will weld mild steel and stainless steel components, flat sheet metal or wire/round bar and small projection parts including weld nuts and weld studs.



GENERAL MANUAL FOR 70KVA ECONO-AIR PNEUMATIC WELDING CONTROLLER



Please Note* the following basic safety standards:

All electrical installation work must be carried out by a qualified electrician.



Danger Electricity



Danger hot work



Danger Moving equipment

1. Installation should be more than 200mm from walls to help prevent overheating.
2. Do not install near flammable materials as welding sparks or hot work pieces may cause flammable objects or materials to ignite.
3. Always wearing protective clothing and eye protection.
4. This machine needs to be securely bolted to the floor.
5. This machine uses a “Secondary to Earth” layout & must be properly earthed.
6. Protection thermostats are placed inside the transformer and on the thyristor. The machine will shut down if overheating. The machine will resume operation once proper working temperature is achieved.



GENERAL MANUAL FOR 70KVA ECONOAIR PNEUMATIC WELDING CONTROLLER**INSTALLATION WATER COOLING, AIR AND ELECTRICAL:**

WATER: At the lower right-hand side of the machine is the cooling water inlet and outlet. The machine needs approximately 20litres of water a minute at about 3 bar pressure. This water cools the thyristor (SCR) firing unit, transformer, upper / lower tip holders and the welding tips.

AIR CONNECTION: The air, which must be clean, water condensation free is brought into the lower rear of the machine. Air supply pressure should not exceed 8bar line pressure. The air supply hose should not be less than 12mmdia. The FRL unit must be filled on a regular basis with light machine oil. Due to different work loading on the machine the Lubricator must be visually check every two / four weeks.

EARTH CONNECTION: At the lower center rear there is a connection for the earth cable. It is critically important that the earth is connected to the machine. The earthing of this machine is a safety feature and must always be used.

ELECTRICAL CONNECTION: There is an inlet knock out / hole in the top of the white Masterweld panel for the supply cable. The cable can be routed through the cabinet top plate using a suitable compression gland and a connection made to the rotary on/off switch inside the panel.

Suggested cable sizes are;

63kva 380v machine 16mm / 25mm cable 100amp breaker

SET UP AND PROGRAMMING OF THE ECONOAIR “MASTERWELD” TIMER:

Before set up and programming is undertaken please watch the “Masterweld” controller presentation on YouTube. You can also download the manual from our website.

Please Note* always attempt to have a short “WELD TIME” and high “HEAT %” rather than a long “WELD TIME” and low “HEAT %”.



GENERAL MANUAL FOR 70KVA ECONOAIR PNEUMATIC WELDING CONTROLLER**GENERAL MACHINE SPECIFICATION:**

MODEL	Econoair-70kVA
RATED CAPACITY	70kVA
RATED VOLTAGE OUTPUT	380V
REATED FREQUENCY	50Hz
MAX SHORT-CIRCUIT CURRENT	25kV
MAX WELDING INPUT	80kVA
DUTY CYCLE	20%
THROAT DEPTH	400mm
MAX TIP FORCE	3900N
CYLINDER STROKE	80mm
COOLING WATER REQUIRED	≥20L/min
WELDING ELECTRODE TYPE	Ø16mm x MT2
ELECTRODE HOLDER DIAMETER	Ø25mm
ELECTRODE ARM	Ø54mm
PROJECTION PLATFORM	110 x 110mm
MAXIMUM WELDING CAPABILITY	2mm + 2mm
WEIGHT	245kg
FOOTPRINT	920 x 600 x 1540

BASIC FAULT FINDING ON “WELD QUALITY”:

<u>WELD PROBLEM</u>	<u>PROBLEM CAUSE</u>	
Welding area badly burnt, burn through holes, rough or ragged welding area	1. Lack of electrode pressure	4. Incorrect electrode face
	2. Welding Current is too high	5. Insufficient cooling of electrode
	3. Weld time excessively long	
Weld expulsion and spatter	1. Surface contamination of workpiece (oil, rust, dirt)	
	2. Squeeze time to short	
	3. Insufficient electrode pressure	
	4. Welding current is too high	
Weak welds	1. Low welding curent	
	2. Electrode pressure to high reducing resistance	
	3. Weld time to short	
Brittle Weld	1. Hold time to short, should be minimum 10 cycles	

GENERAL DISCLAIMERS:

West Kennett Corporation is not liable for damages resulting from, or attributable to the non-compliance of the user of the procedures and recommendations in this manual. Failure to observe these instructions may cause serious injury or death and may result in the warranty being declared null and void.

Read and understand the entire contents of this user manual, with special emphasis on the safety instructions and procedures throughout the user manual, before installing, operating, or maintaining this equipment. This machine and user manual is for use only by persons trained and experienced in the safe operation of welding equipment. Do not allow unqualified persons to install, operate, or maintain this machine. Contact your distributor if you do not fully understand this user manual. Wear safety clothing and always use safety equipment.



If you are not sure, please phone and ask, we will help.

West Kennett Corporation retains the right to modify, improve, and upgrade our products at any time without prior notice due to ongoing improvements of our products and services.

And finally,

This is another in a set of documents that hopefully will help you understand the equipment better. There will be a more in-depth study of the timer, air system, cooling system and how and why a weld takes place.

Look on our website **www.westken.co.za** for the following:

- 1) Introduction to set-up of Westken spotwelding timers for newcomers & others.
- 2) Cooling water for welding machines.
- 3) Explanation of clever words & terms concerning Resistance welding & timer systems.
- 4) Introduction to Spotwelding for newcomers and others.
- 5) Introduction & a basic explanation to Timer control systems.
- 6) Manuals for other machines in our range of equipment.

If you have any questions concerning the above or others question concerning resistance welding, please do not hesitate to contact one of our really clever people at **Westken**. Try the following people who might be able to give a helping hand or some good advice. Remember they do it almost every day, I am talking resistance welding.

Really technical stuff concerning the mechanical and electrical layout and workings of the machines:

..... Mr. Stuart Dorling.

tech@westken.co.za

Stuff concerned with machining the copper, brass, soldered type electrodes etc and the setup manufacturing or usage of machinery.

..... Mr. Jaco Truter.

info@westken.co.za

When you can get stuff and how much stuff costs

..... Ms. Laroshelle Pryor

admin@westken.co.za

