

# Calder Gator 2 Automatic Butt Welder

Technical Guide W7.10

The Gator 2 range of machines have been designed and developed for use on gas and water pressure polyethylene pipe networks.



05.24 | W7.10 CALDER GATOR 2 AUTOMATIC BUTT WELDER

## Applications

Buttwelding PE pipe

## Product Attributes

High quality electrohydraulic pump, motor, valves and control circuit

Fast clamp system to improve productivity

Data recording of 2,000 weld records

Optional CalderSafe®

Mobile QA System

## Approvals/Standards

GIS/PL2-3:2006

ISO 12176-1:2012

## Quality

ISO9001:2015

ISO14001:2015

*We are the supply partner of choice for New Zealand's civil construction industry, specialising in water and infrastructure based solutions.*

The best possible control of the joining process is achieved through an integral computer which controls and monitors all jointing parameters: time, temperature, pressure, movement and sequence.

The welding process will not continue if any of these parameters are not within the specified limits specified by the selected welding standard. Designed and manufactured to meet or exceed GIS/PL2-3:2006 and ISO 12176-1:2012.

## Standard Features

- 21 internationally approved butt welding standards including ISO 21307
- Manufactured to ISO 12176 part 3 and part 4 compliant
- Electronic trim stops protect against over trimming
- Large backlit display with simple user multilingual interface
- Fast clamp system to improve productivity
- Data recording of 2,000 weld records
- High quality electrohydraulic pump, motor, valves and control circuit
- CalderSafe® Weld Data Analyser via Bluetooth connection\*

*\* Requires use of CalderSafe® App (available on Android).*

## The Control Panel

### Fully Automatic Features

1. Machine sequencing
2. Trim and feathering cycle
3. Pipe slippage check
4. Static and dynamic drag measurement
5. Heater plate temperature control
6. Initial bead up distance control
7. Heater retraction
8. Pressure control at bead up, soak, fusion, and cool time
9. Out of specification

### Operator Contribution

1. Input pipe, operator details and project details
2. Inspect and approve trim

### Preprogrammed Parameters

1. 21 internationally approved welding standards containing specified: Heater Temperatures, Fusion Pressures, Soak Times and Cooling Times
2. Data management systems
3. Diagnostic routines



### Continuously Monitored



Temperature (C°)



Movement (mm)



Pressure (bar)



Time (secs)



Trimmer Current (Amps)



Heater Continuity ( $\Omega$ )



Pipe Slippage (mm)



Oil Level (ml)

# The Gator 2 Detail

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## Chassis

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- Light, compact and sturdy construction built to resist bending under heavy loads.
- Displacement transducer produces correct bead size at any ambient temperature.
- Fast clamp system to improve productivity and reliability.
- Z link system to provide symmetrical heater pull off, reducing dwell time.
- Removal of fourth clamp to facilitate welding of long spigot fittings such as elbows and tees.
- Lightweight, tough composite plastic liners for 250mm diameter and below.
- Full range of aluminium liners.

## Trimmer

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- Hard anodised low friction discs.
- Low maintenance.
- Curved blades on smaller machines for optimum cut.
- Electronic trim stops for protection against over trimming.
- Quarter turn quick release fasteners.
- Tough and reliable trimmer motor.
- Auto trim cycle software developed to provide maximum material removal whilst protecting motor.
- Auto feather off feature, leaves pipe ends perfectly smooth and square.

## Computer

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- In addition to the features on the previous page:
- Company logo on screen.
- Intuitive menu selection options.
- Selected weld parameters can be 'locked off' by supervisors.
- Service and calibration notifications.
- Software upgrades via USB.
- Large bright display with tough polycarbonate protective screen.
- Can be connected to printer/scanner.
- ISO 12176 part 3 and part 4 compliant.
- Energy management system to automatically 'switch off' elements of the machine when not required.
- Tough military waterproof cable connectors.

## Heater

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- Large thermal capacity reduces temperature drop on pipe contact.
- Super fast auto retraction for minimising dwell time - typically under two seconds.
- Tough ABS 'zero contact' reflective heater guards for optimum energy efficiency, safety and contamination free joints.
- Replaceable and easily removed surface heater plates.
- Dual thermocouple temperature sensors. Machine will not operate unless both sensors are reading desired temperature.
- Quarter turn quick release fasteners.

## Controller

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- Powerful pump motor helps to keep power pack cool under heavy loads.
- High quality hydraulic pump and solenoid valves.
- Auto oil level check.
- Anti drip hydraulic hose connectors.
- Tough stainless steel and ABS protective enclosure with ergonomically designed carry handles.
- Protective computer lid.
- Cable tidy.
- Input power monitor.

## Gator

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- Modular components gives smallest/ narrowest footprint, ideal for in-trench welding.
- Combined light weight heater and trimmer stand.

**TABLE 1 Technical Specification**

	<b>Gator 2 315</b>	<b>Gator 2 400</b>
Codes	BWM315GATOR	BWM400GATOR
Range (mm)	90 - 315	200 - 400
Nominal Input Voltage (V)	220	220
Input Frequency (Hz)	50/60	50/60
Generator Rating (KVA)	6.0	6.5

**TABLE 2 Gator 2 400**

	<b>Chassis</b>	<b>Heater</b>	<b>Trimmer</b>	<b>Controller</b>
Power (kw)		4.0	1.15	1.2
Height (mm)	580	1160	695	500
Length (mm)	715	690	618	445
Width (mm)	710	255	405	540
Weight (kg)	71.5*	38.5	32.5	53
Total weight (kg)	207*			

**\* Weight excluding protective cradle**

**TABLE 4 Data output**

Printer	Thermal paper
USB Memory Device	Text file/Joint Manager
Bluetooth	CalderSafe Mobile QA System

**\* Control Point and Joint Manager available upon request.**

**TABLE 6 Butt Weld Gator Reduction Clamps**

<b>Code</b>	<b>Sizes</b>
BWMLIN31590	315 – 90mm Reduction Clamps
BWMLIN400200	400 – 200mm Reduction Clamps

**\*Reduction Clamps are sold separately from the welders.**

**TABLE 3 Gator 2 315**

	<b>Chassis</b>	<b>Heater</b>	<b>Trimmer</b>	<b>Controller</b>
Power (kw)		3.3	0.75	1.2
Height (mm)	465	890	560	500
Length (mm)	695	630	300	445
Width (mm)	630	255	555	540
Weight (kg)	62*	34	22	53
Total weight (kg)	164*			

**\* Weight excluding protective cradle**

**TABLE 5 Memory**

Internal Memory Capacity	Up to 2,000 Records
Back Up to SD Card	Up to 100,000 Records
CalderSafe Mobile QA System	Unlimited

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