



XTS-902

OPERATOR MANUAL

ISSUE 2

Welcome

Thank you and congratulations on choosing Parweld. This Owner's Manual is designed to help you get the most out of your Parweld product. Please take time to read the Safety precautions. They will help you protect yourself against potential hazards in the workplace. With proper maintenance this equipment should provide years of reliable service. The entire product range carries the CE mark, and is constructed in accordance with European directives and the product specific standards where they apply. All our systems conform to ISO9001: 2000 and are independently audited by NQA.

Further Information

Parweld is the UK's leading manufacturer of MIG, TIG and Plasma torches and consumables. For more information about Parweld's complete range visit: www.parweld.com

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1.0 Safety Precautions

ELECTRIC SHOCK can kill.

Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and machine internal circuits are also live when power is on.

Do not touch live electrical parts.

Wear dry, sound, insulating gloves and body protection.

Insulate yourself from work and ground using dry insulating mats or covers big enough to prevent any physical contact with the work ground.

Additional safety precautions are required when any of the following electrically hazardous conditions are present: in damp locations or while wearing wet clothing; on metal structures such as floors, gratings, or scaffolds; when in cramped positions such as sitting, kneeling, or lying; or when there is a high risk of unavoidable or accidental contact with the work piece or ground.

Disconnect input power before installing or servicing this equipment. Lockout/tagout input power according to Safety Standards.

Properly install and ground this equipment according to national and local standards.

Always verify the supply ground - check and ensure that input power cable ground wire is properly connected to ground terminal in the receptacle outlet.

When making input connections, attach proper grounding conductor first - double-check connections.

Frequently inspect input power cable for damage or bare wiring - replace cable immediately if damaged - bare wiring can kill.

Turn off all equipment when not in use.

Do not use worn, damaged, under sized, or poorly spliced cables.

Do not drape cables over your body.

If earth grounding of the work piece is required, ground it directly with a separate cable.

Do not touch electrode if you are in contact with the work, ground, or another electrode from a different machine.

Use only well-maintained equipment. Repair or replace damaged parts at once. Maintain unit according to manual.

Wear a safety harness if working above floor level.

Keep all panels and covers securely in place.

Clamp work cable with good metal-to-metal contact to work piece or worktable as near the weld as practical.

Insulate work clamp when not connected to work piece to prevent contact with any metal object.

FUMES AND GASES can be hazardous.

Breathing these fumes and gases can be hazardous to your health.

Keep your head out of the fumes. Do not breathe the fumes. If inside, ventilate the area and/or use local forced ventilation at the arc to remove welding fumes and gases.

If ventilation is poor, wear an approved respirator.

Read and understand the Material Safety Data Sheets (MSDS's) and the manufacturer's instructions for metals, consumable, coatings, cleaners, and de-greasers.

Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Always have a trained watch person nearby. Welding fumes and gases can displace air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.

Do not weld in locations near de-greasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapours to form highly toxic and irritating gases.

Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.

ARC RAYS can burn eyes and skin.

ARC RAYS can burn eyes and skin. Arc rays from the welding process produce intense, visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

Wear an approved welding helmet fitted with a proper shade of filter lens to protect your face and eyes when welding or watching

Wear approved safety glasses with side shields under your helmet.

Use protective screens or barriers to protect others from flash, glare and sparks; warn others not to watch the arc.

Wear protective clothing made from durable, flame resistant material (leather, heavy cotton, or wool) and foot protection. Welding on closed containers, such as tanks, drums, or pipes, can cause them to blow up. Sparks can fly off from the welding arc. The flying sparks, hot work piece, and hot equipment can cause fires and burns. Accidental contact of electrode to metal objects can cause sparks, explosion, overheating, or fire. Check and be sure the area is safe before doing any welding.

WELDING can cause fire or explosion.

Remove all flammables within 10m of the welding arc. If this is not possible, tightly cover them with approved covers.

Do not weld where flying sparks can strike flammable material.

Protect yourself and others from flying sparks and hot metal.

Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.

Watch for fire, and keep a fire extinguisher nearby. Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on

the hidden side.

Do not weld on closed containers such as tanks, drums, or pipes, unless they are properly prepared according to local regulations

Connect work cable to the work as close to the welding area as practical to prevent welding current from travelling along, possibly unknown paths and causing electric shock, sparks, and fire hazards.

Wear oil-free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap. Remove any combustibles, such as a butane lighter or matches, from your person before doing any welding.

FLYING METAL can injure eyes.

Welding, chipping, wire brushing, and grinding cause sparks and flying metal. As welds cool they can throw off slag. Wear approved safety glasses with side shields even under your welding helmet.

BUILD UP OF GAS can injure or kill.

Shut off shielding gas supply when not in use. Always ventilate confined spaces or use approved air-supplied respirator.

HOT PARTS can cause severe burns.

Do not touch hot parts with bare hands.

Allow cooling period before working on gun or torch.

To handle hot parts, use proper tools and/or wear heavy, insulated welding gloves and clothing to prevent burns.

MAGNETIC FIELDS can affect pacemakers.

Pacemaker wearers keep away.

Wearers should consult their doctor before going near arc welding, gouging, or spot welding operations.

NOISE can damage hearing.

Noise from some processes or equipment can damage hearing.

Wear approved ear protection if noise level is high.

Shielding gas cylinders contain gas under high pressure.

CYLINDERS can explode if damaged.

Protect compressed gas cylinders from excessive heat, mechanical shocks, physical damage, slag, open flames, sparks, and arcs. Install cylinders in an upright position by securing to a stationary support or cylinder rack to prevent falling or tipping. Keep cylinders away from any welding or other electrical circuits. Never drape a welding torch over a gas cylinder. Never allow a welding electrode to touch any cylinder. Never weld on a pressurized cylinder - explosion will result. Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.

Turn face away from valve outlet when opening cylinder valve.

Use the right equipment, correct procedures, and sufficient number of persons to lift and move cylinders.

Read and follow instructions on compressed gas cylinders,

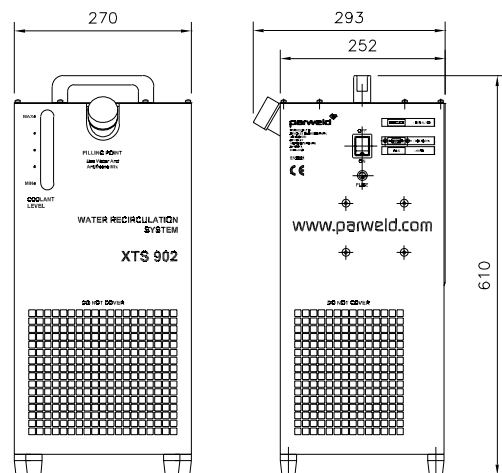
associated equipment, and Compressed Gas Association (CGA) recommendations.

2.0 Product Description

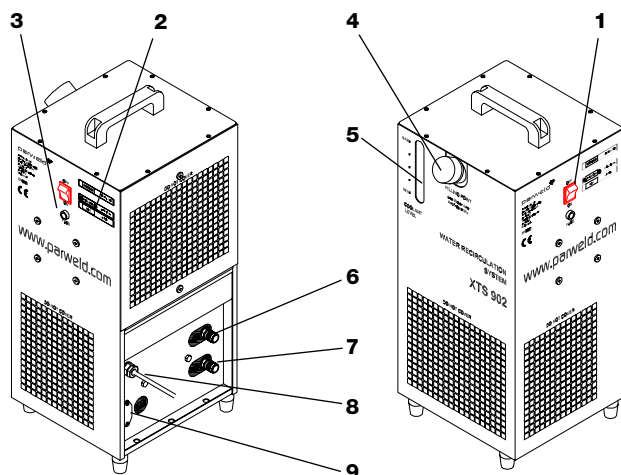
This water cooling unit is designed to be integrated with MIG and TIG welding equipment to provide cooling for water cooled torches up to a rating of 500A. In addition the unit may be used on small spot welding or other similar equipment up to a rating of 60KVA. The small footprint allows the unit to be mounted on the cylinder stand of most welding machines.

3.0 Technical Specifications

	Machine Model	
	XTS-902	XTS-902F
Weight empty (kg)	19.5	20
Weight full (kg)	24.5	25
Tank capacity (litres)	5.0	5.0
Motor rating 230V (A)	3.0	3.0
Motor rating 110V (A)	6	6
Motor power (KW)	0.75	0.75
Motor Speed (rpm)	2900	2900
Pump max. pressure (Bar)	4.7	4.7
Pump max head (m)	48	48
Pump max. flow (lpm)	25	25
Heat exchanger rating (W)	900	900
Max. water temperature (°C)	60	60
Min. water temperature (°C)	4	4
Max ambient temperature (°C)	40	40
Noise (dba)	74	74
Flow switch setting (lpm)	NA	1



4.0 Description of Controls



- 1) ON OFF Switch for switching on or off the mains supply to the machine. Note the output of the machine is permanently on unless the on/off switch is in the off position.
- 2) Input Voltage selector switch. Sets the unit for operation on 240 or 110 volts.
- 3) Mains input fuse for protection of the unit in case of malfunction.
- 4) Water filling spout.
- 5) Water level indicator
- 6) Water return connection (Red). In
- 7) Water supply connection (Blue). Out
- 8) Mains input cable
- 9) Control socket for flow switch interconnection (only present on XTS-902F model)

5.0 Installation

Read entire installation section before starting installation.

SAFETY PRECAUTIONS

- **ELECTRIC SHOCK can kill.**
- **Only qualified personnel should perform this installation.**
- **Only personnel that have read and understood the Operating Manual should install and operate this equipment.**
- **Machine must be grounded per any national, local or other applicable electrical regulations.**
- **The power switch is to be in the OFF position when installing work cable and electrode cable and when connecting other equipment.**

5.1 Unpacking the Machine

Carefully remove the unit from the packaging, we recommend you retain the packaging until the unit has been fully installed and tested in case it has been damaged in transit and has to be returned to the re-seller.

5.2 Location

Be sure to locate the unit according to the following guidelines:

In areas, free from moisture and dust.

Ambient temperature between 0-40°C.

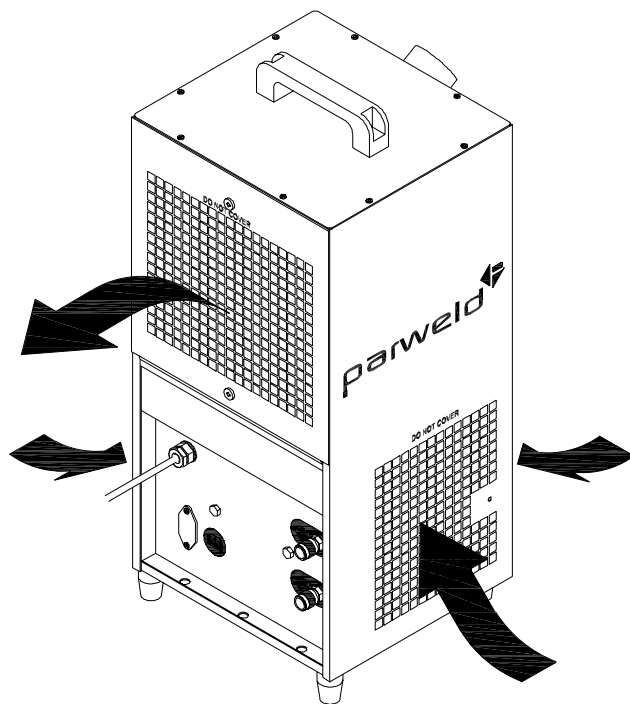
In areas, free from oil, steam and corrosive gases.

In areas, not subjected to abnormal vibration or shock.

In areas not exposed to direct sunlight or rain.

Place at a distance of 12" (300 mm) or more from walls or similar that could restrict natural airflow for cooling.

Do not obstruct any of the cooling vents



5.3 Input and grounding connection

WARNING

Before starting the installation, check that your power supply is adequate for the voltage, amperage, phase, and frequency specified on the Machine nameplate.

Operate the welding power source from a single-phase 50/60 Hz, AC power supply. The input voltage must match one of the electrical input voltages shown on the input data label on the unit nameplate. The input voltage is switchable between 110 or 240V ensure the correct voltage is shown before connection the power supply. Do not attempt to change the input voltage selector with the power on. Refer to the specifications table for voltage tolerances.

Have a qualified electrician connect the input plug. For long runs over 30m , larger copper wires should be used. The green/yellow wire in the input cable connects to the frame of the machine. This ensures proper grounding of the machine when the machine plug is inserted into the receptacle.

5.4 Output Connections

The Red Connection is the hot water return connection and should be connected to the red hose on the welding torch or if connected through the power source to the water drain connection.

The Blue Connection is the cold water supply connection and should be connected to the blue hose on the welding torch or if connected through the power source to the water supply connection.

Both hose connections are Type 21 Quick connections, if the water cooler is mounted away from the power source/torch a hook up extension kit may be used, refer to the parts list.

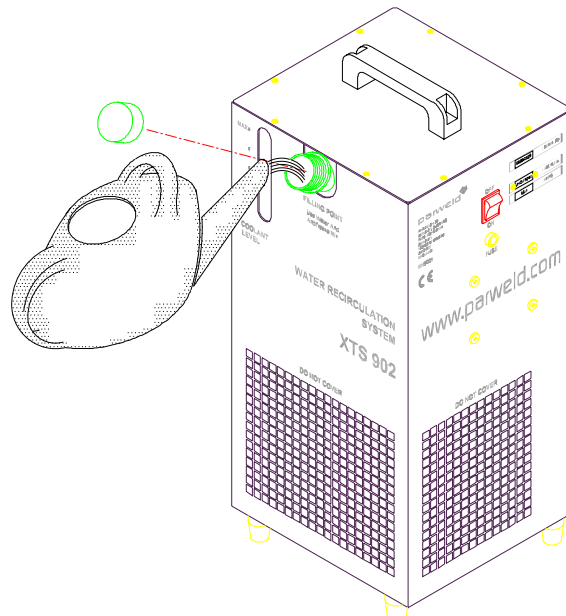
5.5 Coolant filling

Remove the filler cap (4) and fill the unit with Parweld UltraCool until the Max mark is reached in the sight glass. Secure the filler cap before starting the unit. There is not need to prime the pump but on first running the pump should be allowed to run with the torch connected for 1 minute to ensure all air has been expelled from the system before welding is started. After initial running refill the water tank to the Max level.

Warning

Operating the unit without the use of Parweld UltraCool will shorten the life of the pump and torch. UltraCool contains special additive to lubricate the pump and prevent corrosion in all parts of the system including the torch.

Glycol based fluids should not be used as they promote corrosion due to the electrical conductivity of the fluid.



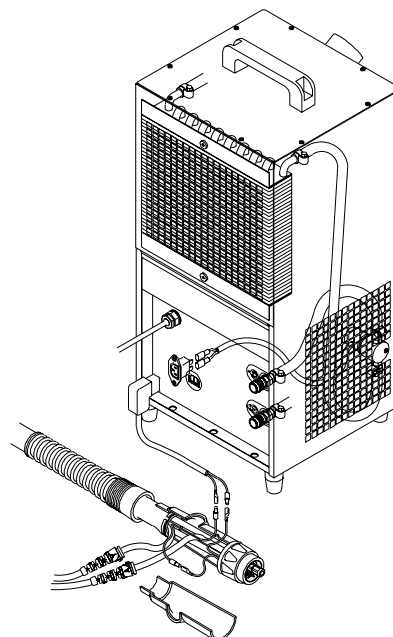
6.0 Flow switch (XTS-902F)

The XTS-902F is supplied fitted with a flow switch , this can also be purchased as a retrofit kit for the XTS-902. The purpose of the flow switch is to prevent damage to the torch or hoses due to a loss of water flow or failure to switch on the water cooler. In order for the flow switch to operate correctly it must be linked into the welding control circuit this can be done as shown below or by wiring the control wires in series with the trigger wires inside the power source.

Warning

Machine modifications should only be performed by competent persons.

If the water flow falls below 1lpm then the flow switch will operate and break the trigger circuit so stopping the welding process. If the flow switch operates there may be an number of causes refer to the fault finding section.



7.0 Operation

Before switching on the unit ensure the header tank is full none of the cooling vents are obstructed and the electrical connections are secure.

Move the on/off switch into the on position before operating the torch or welding plant.

8.0 Fault Finding

Description	Possible cause	Remedy
Unit does not switch on	(a) The primary supply voltage has not been switched on (b) The input voltage has not been set correctly (c) obstruction preventing rotation of the pump	(a) Switch on the primary supply voltage (b) check the input voltage matches that set on the unit (c) Have a qualified service engineer disconnect the power and the remove the service panel to check rotation of the pump
Torch over heats	low coolant flow	Check coolant level is correct, check for kinks in the hoses and system blockages. Ensure cooling vents on the unit are not obstructed. Blow out the heat exchanger.
Welding torch stops working	Low coolant flow (XTS-902F)	Check coolant level is correct, check for kinks in the hoses and system blockages. Have a service engineer check the operation of the flow switch.

8.1 ROUTINE MAINTENANCE

The only routine maintenance required for the water cooler is a thorough cleaning and inspection, with the frequency depending on the usage and the operating environment.

Warning

Disconnect primary power at the source before removing the cover. Wait at least two minutes before opening the cover to allow the primary capacitors to discharge.

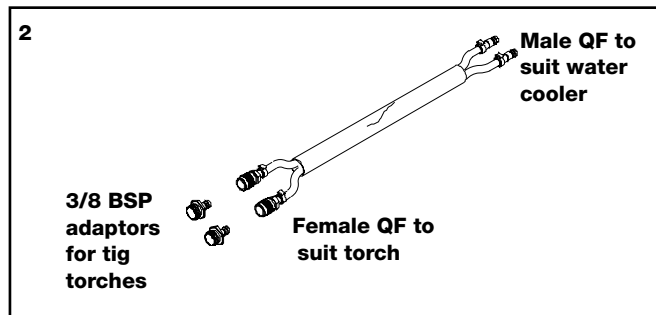
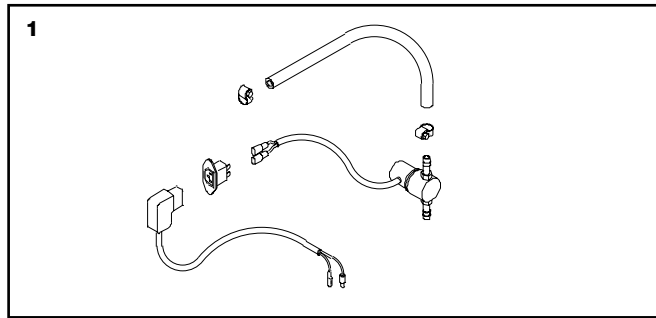
To clean the unit, remove the screws securing the outer cover, lift off the outer cover and use a vacuum cleaner to remove any accumulated dirt and dust. The unit should also be wiped clean with a damp cloth.

	Weekly	6 months	2 Years
Check coolant level	*		
Check hoses for kinks	*		
Blowout heat exchanger		*	
Drain & replace UltraCool			*

9.0 Parts and Accessories

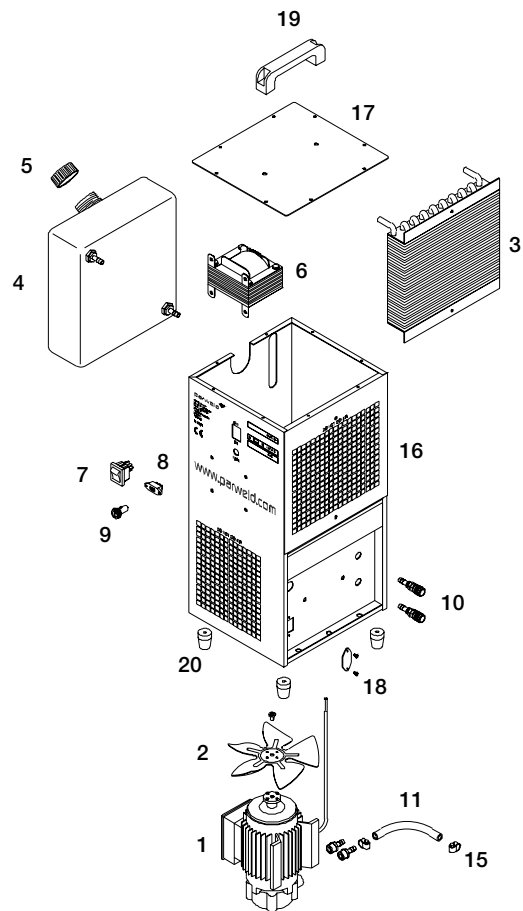
9.1 Accessories

Item	Stock Code	Description
NI	XTSUC	Parweld UltraCool coolant 10l
1	XTSFSK	Flow switch kit for XTS-902
2	XTSH1	Hook up kit 1m
	XTSH3	Hook up kit 3m



9.2 Spare parts

Item	Description	Stock Code
1	Pump & Motor Assembly	XTS902001
2	Fan	XTS902002
3	Heat Exchanger	XTS902003
4	Coolant Tank	XTS902004
5	Cap	XTS902005
6	Transformer	XTS902006
7	Mains On/Off Switch	XTS902007
8	Voltage Selector Slider Switch	XTS902008
9	In line Fuse Holder	XTS902009
	20mm fuse 3A (240v)	XTS902019
	20mm fuse 8A (110V)	XTS902032
10	Snap In Water Connectors	XTS902010
11	Hose, (600mm)	XTS902011
15	Hose Clamp, Adjustable	XTS902012
16	Metal Case Assembly	XTS902013
17	Cover Panel	XTS902014
18	Blanking Plate (flow switch plug)	XTS902015
19	Handle	XTS902016
20	Rubber Feet	XTS902017



FAULT FINDING

10.0 EC declaration of conformity

Hereby we declare that the machines as stated below

Type: XTS-902, XTS902FS

Conform to the EC Directives: 73/23/EEC and 89/336/EEC

European standard: EN/IEC 60974-1

This is to certify that the tested sample is in conformity with all provisions of the above detailed EU directives and product standards.



10.1 Rohs Compliance Declaration

Directive 2002/95/ec of the European Parliament

Restriction of use of certain hazardous substances in electrical and electronic equipment

Type: XTS-902, XTS902FS

The above listed products are certified to be compliant with the rohs directive with all homogeneous component parts being controlled to ensure material contents as per the list below.

Cadmium 0.01% by weight

Lead 0.1% by weight

Mercury 0.1% by weight

Hexavalent chromium 0.1% by weight

Polybrominated biphenyl's (pbbs) 0.1% by weight

Polybrominated diphenyl ethers (pbdes) 0.1% by weight

It should be noted that under specific exempted applications, where lead is used as an alloying element the following limits are applied in accordance with the regulations.

Copper and copper alloy parts use less than 4% by weight of each homogeneous component.

Steel and steel alloy parts use less than 4% by weight of each homogeneous component.

Aluminium and aluminium alloy parts use less than 4% by weight of each homogeneous component.

Only dispose off in authorised sites for electrical and electronic waste do not dispose of with general refuse or landfill waste.

10.2 WEEE Statement



WEEE (Waste Electrical & Electronic Equipment) 2002/96/EC

In relation to implementing the legislation, Parweld has established relevant recycling and recovery methods. We have been fully compliant against the marking requirements since August 2005. Parweld is registered in the UK with the Environment agency as detailed below. For WEE compliance outside the UK please contact your supplier/Importer

Parweld is registered with a compliance scheme Official registration number is WEE/FD0255QV

When your equipment reaches the end of its service life you should return it to Parweld where it will be reconditioned or processed for recycling.

10.3 Statement of warranty

Limited Warranty:

Parweld Ltd, hereafter, "Parweld" warrants its customers that its products will be free of defects in workmanship or material. Should any failure to conform to this warranty appear within the time period applicable to the Parweld products as stated below, Parweld shall, upon notification thereof and substantiation that the product has been stored, installed, operated, and maintained in accordance with Parweld's specifications, instructions, recommendations and recognized standard industry practice, and not subject to misuse, repair, neglect, alteration, or accident, correct such defects by suitable repair or replacement, at Parweld's sole option, of any components or parts of the product determined by Parweld to be defective.

Parweld makes no other warranty, express or implied. This warranty is exclusive and in lieu of all others, including, but not limited to any warranty of merchantability or fitness for any particular purpose.

Limitation of Liability:

Parweld shall not under any circumstances be liable for special, indirect or consequential damages, such as, but not limited to, lost profits and business interruption. The remedies of the purchaser set forth herein are exclusive and the liability of Parweld with respect to any contract, or anything done in connection therewith such as the performance or breach thereof, or from the manufacture, sale, delivery, resale, or use of any goods covered by or furnished by Parweld whether arising out of contract, negligence, strict tort, or under any warranty, or otherwise, shall not, except as expressly provided herein, exceed the price of the goods upon which such liability is based. No employee, agent, or representative of Parweld is authorized to change this warranty in any way or grant any other warranty.

Purchaser's rights under this warranty are void if replacement parts or accessories are used which in Parweld's sole judgement may impair the safety or performance of any Parweld product.

Purchaser's rights under this warranty are void if the product is sold to purchaser by non-authorized persons.

The warranty is effective for the time stated below beginning on the date that the authorized Distributor delivers the products to the purchaser. Notwithstanding the foregoing, in no event shall the warranty period extend more than the time stated plus one year from the date Parweld delivered the product to the authorized distributor.

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