



# ALMONTE AUTOMATIC CORE SAW

## Safety Instructions



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## 1. PURPOSE

To establish the precautionary measures to ensure core cutting is carried out in a manner that reduces the risk of injury and/or damage whilst meeting required regulatory standards and to describe the correct core cutting method whilst operating the Almonte Core Saw.

## 2. SCOPE

These instructions apply to **all persons** involved in the cutting of diamond drill core using the Almonte Core Saw.

## 3. RESPONSIBILITIES

Before commencing this task, ensure that you have the knowledge and skills necessary to safely and competently operate the Almonte Core Saw.

## 4. SPECIFIC SAFETY CONSIDERATIONS WHEN USING THE ALMONTE CORE SAW

POTENTIAL HAZARDS & DANGERS	PREVENTION & SAFETY MEASURES
Severe injury resulting from incorrect use of the core saw or use of a defective blade	<ul style="list-style-type: none"> <li>» Personal protective equipment (PPE)</li> <li>» Training/induction</li> <li>» Pre-start inspection</li> <li>» Instruction manual</li> <li>» Spring safety arm</li> <li>» Usage of warning stickers</li> </ul>
Cuts from handling core or falling core trays	Wear personal protective equipment (PPE), e.g. gloves, safety boots, long pants/sleeves.
Injury to eyes from particles of core	Personal protective equipment (PPE), e.g. eye protection, machinery guards.
Water coming in contact with electricity	<ul style="list-style-type: none"> <li>» Machines are hard-wired into power or use waterproof power points</li> <li>» Power outlets are above water egress points and are not in contact with water hoses</li> <li>» In the event of an electrical problem, cease operation immediately and report the fault</li> <li>» Under <u><b>no circumstances</b></u> are unqualified persons to attempt repairs</li> </ul>
Entanglement with machinery	<ul style="list-style-type: none"> <li>» Training/induction</li> <li>» Trip switches</li> <li>» Procedures</li> <li>» Usage of warning stickers</li> <li>» Chain is guarded.</li> <li>» Emergency stop button is easily accessible to operator.</li> <li>» Personal apparatus consideration for possible entanglement with machinery</li> </ul>
Damage to hearing	Personal protective equipment (PPE) - hearing protection (Class 4) or protective ear muffs that comply to AS/NZS 1270
High speed rotating diamond saw blade (danger of laceration)	Do not lift the primary/secondary/top blade cover while the machine is in operation. Isolate at the main power source before conducting repairs and ensure that you have sufficient training to complete this task.
Moving parts (crushing and cutting)	Do not place hands or fingers between cutting block or block pushers and blade housing. Entry flap and guard is in place to prevent an incident.

## 4. SPECIFIC SAFETY CONSIDERATIONS WHEN USING THE ALMONTE CORE SAW

POTENTIAL HAZARDS & DANGERS	PREVENTION & SAFETY MEASURES
Falling objects (injuries to feet and limbs)	Wear steel cap safety boots and ensure trays and tools are placed on a solid base where they cannot be easily dislodged.
Radiation - if cutting core that requires radiation monitoring	All employees are issued with a radiation monitoring tag (TLD badge), which is collected by the radiation department on a regular basis, and a new tag is issued.
Back injury/strains due to incorrect movement of core trays, blade guard lifting	Ensure correct lifting techniques are used when manual handling, warm up, stretch before conducting activities. Recommend two hand lift when lifting blade guard.
Heat/Ventilation/Dehydration/Fatigue/Fitness for work	Ensure sufficient ventilation in core shed, maintain fluid levels at all times, fatigue management awareness, practice induction, etc. No personal music listening devices or the like to be used whilst operating machine. Employees to comply with fitness for work requirements
Incompetent operator(s)	Employers must provide employees with information, instruction, training and supervision to allow them to work in a safe manner - Occupational Safety and Health Act 1984.

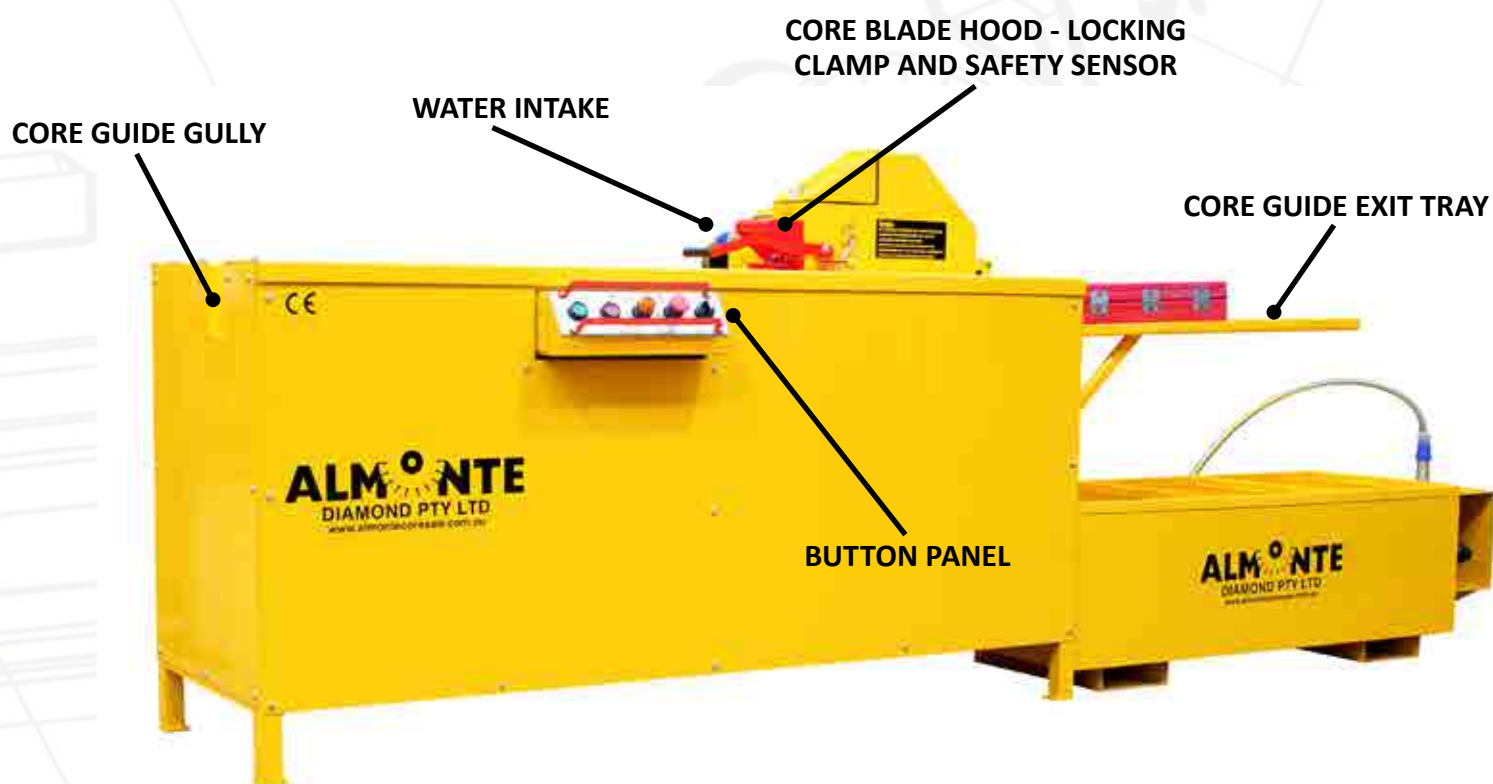
### Personal Protective Equipment (PPE) Requirements

- » **GLOVES** - Leather gloves for the handling and moving of core trays and rubber safety gloves for the handling of core to and from the core cutting guides and the core tray.
- » **SAFETY GLASSES** - they shall comply with the relevant requirements of AS/NZS 1337.
- » **SAFETY BOOTS** - preferably with steel capped toes and non-slip soles for working in wet area and the lifting and carrying of core trays.
- » **HEARING PROTECTION** – The Almonte yellow blade has been tested to 99 decibels, Almonte recommends a minimum of class 4 hearing protection tested to AS/NZS 1270.
- » **PLASTIC APRON** - in the event of water spray from core cutting blades.
- » **OVERALLS** - for the protection of clothes and body. Preferably overalls that do not have loose belts and cuffs that have the potential to get caught in machinery.



## 5. INTRODUCTION TO THE CORE SAW

5.1	A pre-start inspection <b>must</b> be completed before commencing cutting. Class 4 hearing protection and approved eye protection are to be worn at all times when a saw is in operation.	See <i>Almonte Core Saw Pre-start Inspection</i> (page 5).
5.2	You must isolate the saw before you pre start the saw, whilst changing the core blade and removing any obstruction.	Isolate at main isolation switch and ensure no unauthorised person(s) can start machine.
5.3	Ensure your direct route of travel has been inspected and all hazards have been rectified.	



Close up view of the button panel



## 6. SAFETY SYSTEMS & PURPOSE

6.1	Blade hood	Designed to contain fragments or broken blade at no risk to the operator. Ensure guard is down and secure prior to operation.
6.2	Spray/splash guard	Ensures no airborne vapour.
6.3	Emergency stop - immediately accessible	As well as stopping the machine the emergency stop has a braking effect rather than freewheeling to a stop.
6.4	Uniquely coded magnetic RFID sensor on blade hood	Stops the machine if the primary/main hood is raised while the machine is running. This switch <b>must</b> be checked in the daily pre-start inspection.



Diagram 1



Diagram 2

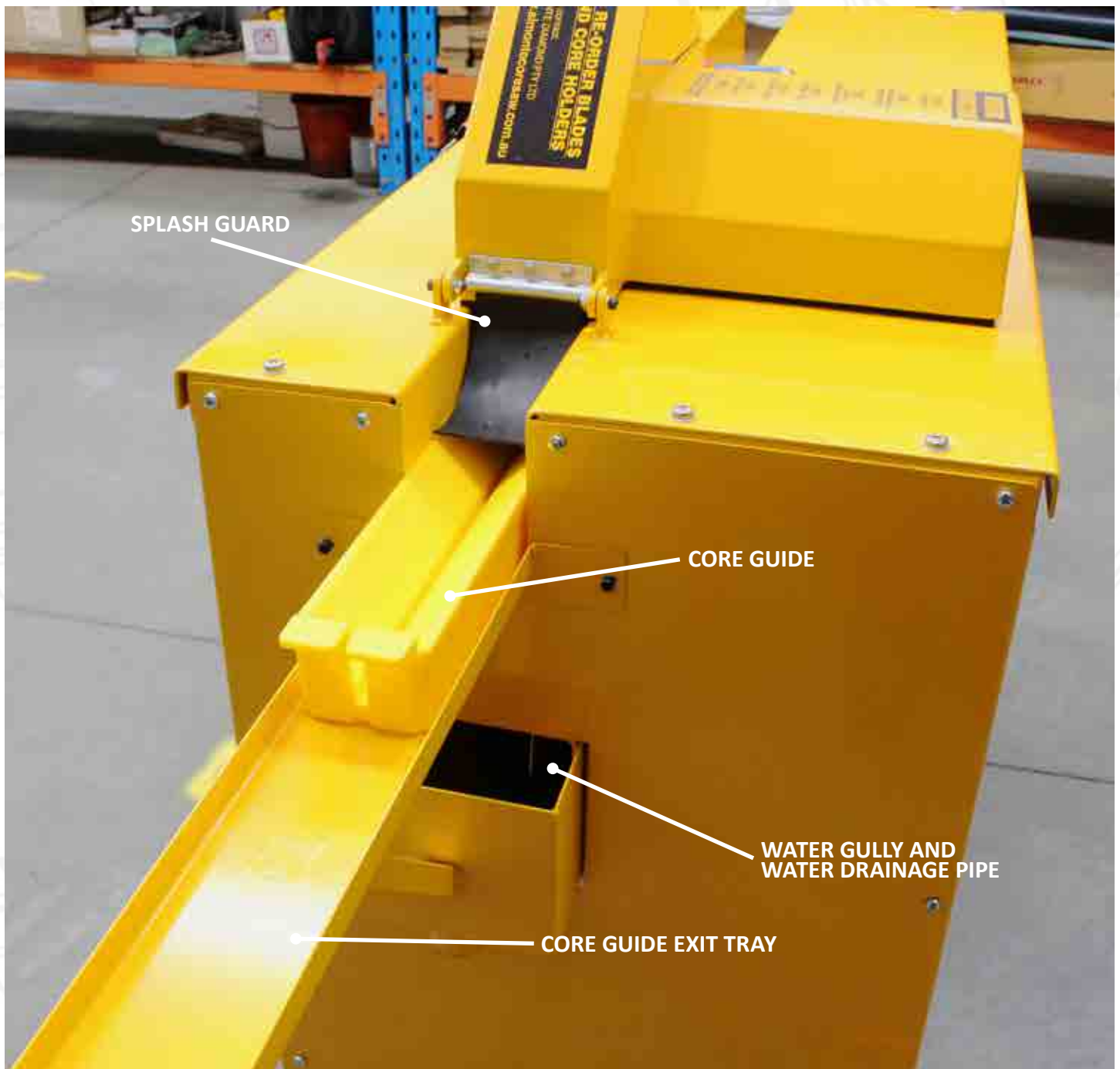
## 7. PRE-START INSPECTION

7.1	Pull emergency stop button on control panel out	Refer Diagram 1
7.2	Press reset button on control panel	Refer Diagram 1
7.3	Turn water on	Check water is running
7.4	<b>MANDATORY SAFETY CHECKS</b> Press start button on control panel	<ul style="list-style-type: none"> <li>» After the machine has started, press emergency stop button and ensure machine stops</li> <li>» Test red arm by lifting the arm, whilst machine is operating and ensure machine stops</li> <li>» Test spring safety arm (if fitted) by breaking the switch with a wooden block</li> </ul> <p><i>If machine fails this check, <b><u>DO NOT USE THE MACHINE</u></b> and contact your supervisor for instructions.</i></p>
7.5	Restart procedure if emergency stop has been used	<p>Refer Diagram 2</p> <ul style="list-style-type: none"> <li>» Press in emergency stop button, red arm must be in down position then wait 5 seconds</li> <li>» Pull out emergency stop button and wait 5 seconds, then press reset button</li> <li>» Core saw will then be ready to restart</li> </ul> <p><i>If machine fails this check, <b><u>DO NOT USE THE MACHINE</u></b> and contact your supervisor for instructions.</i></p>
7.6	Turn feed switch on button panel to forward	Refer Diagram 1
7.7	To stop in the event of an emergency, push emergency stop button in	Refer Diagram 1



## 8. CORE CUTTING

8.1	Load core holders 1 and 2 in order from core tray	Maintain the same selection process
8.2	Place core holders in sequential order on moving feed chain (cutting process is automatic)	<b>IMPORTANT:</b> Sequence of core holders must be maintained
8.3	Remove core holder containing cut core from exit tray and replace core in original position in tray	<b>IMPORTANT:</b> Core <b>MUST</b> be returned to original position in tray
8.4	Continue loading core holders in order, cutting core and replacing in original position in trays until all core is cut.	<b>IMPORTANT:</b> Core sequence must be maintained





## 9. CHANGING THE CORE BLADE

Step	Description
1	Ensure personal protective equipment (PPE) is worn
2	Isolate saw
3	Lift the blade hood so the blade is accessible
4	Using a 30mm spanner, undo blade fastening nut that holds the blade in place
5	Remove the nut and front flange and gently remove the blade
6	Clean paint out of the new blade's shaft hole (see Diagram 2) to ensure perfect fit and fit into the core saw in such a way that the directional arrow (see Diagram 4) is pointing towards the rear of the machine
7	The blade must sit flush on 'both sides of the housing shaft' when being refitted, and that the locking pin extends to the locking plate
8	Ensure that it is flush; if it is not sitting on correctly, adjust and rotate until it does so
9	Re-fit front locking plate and nut; ensure nut is tightened
10	Place blade hood back in position
11	De-isolate saw



## 10. SHUT DOWN & CLEAN UP

- » Check all core and core holders are removed from machine
- » Turn the feed switch to the off position and push the stop button in
- » Turn water off at the saw and also the primary tap on at the main
- » Apply degreaser to the exterior of the saw with a broom / brush
- » Wash out core holders
- » Wash down saw and work area including marks on walls with hose
- » Wash all cutting debris from the floor into the drains
- » Restart saw, turn feed switch to forward, allow feed chain to turn at least one complete revolution while being sprayed over its length with pressure pack chain lubricant
- » Turn feed switch to off and shut down saw

**PLEASE NOTE:** Almonte Diamond Pty Ltd have qualified personnel to train operators on the use of the core saw

## 11. ALMONTE CORE SAW MAINTENANCE

### Before Use

- » Check to make sure that safety switches and emergency stop buttons are working correctly
- » Check to make sure that diamond blade is fitted correctly and that water is turned on
- » Check all other function switches

### After Use

- » Wash saw down at the end of each shift with clean water to remove any sediment from surface and remove any core fragments from the gulley

### Once A Week

- » After washing the saw down, use a suitable lubricant and grease the chain; this can be done using a suitable applicator through the top channel where the chain is visible

### Monthly

- » Isolate the machine
- » Check the tension of the main chain assembly by removing the panel on the end furthest from the blade
- » Should it require tightening please contact a fitter or call Almonte Diamond at +61 (0)8 9209 2721 for assistance

## 12. ALMONTE CORE SAW PRE-START CHECKLIST

Date \_\_\_\_\_

Name \_\_\_\_\_

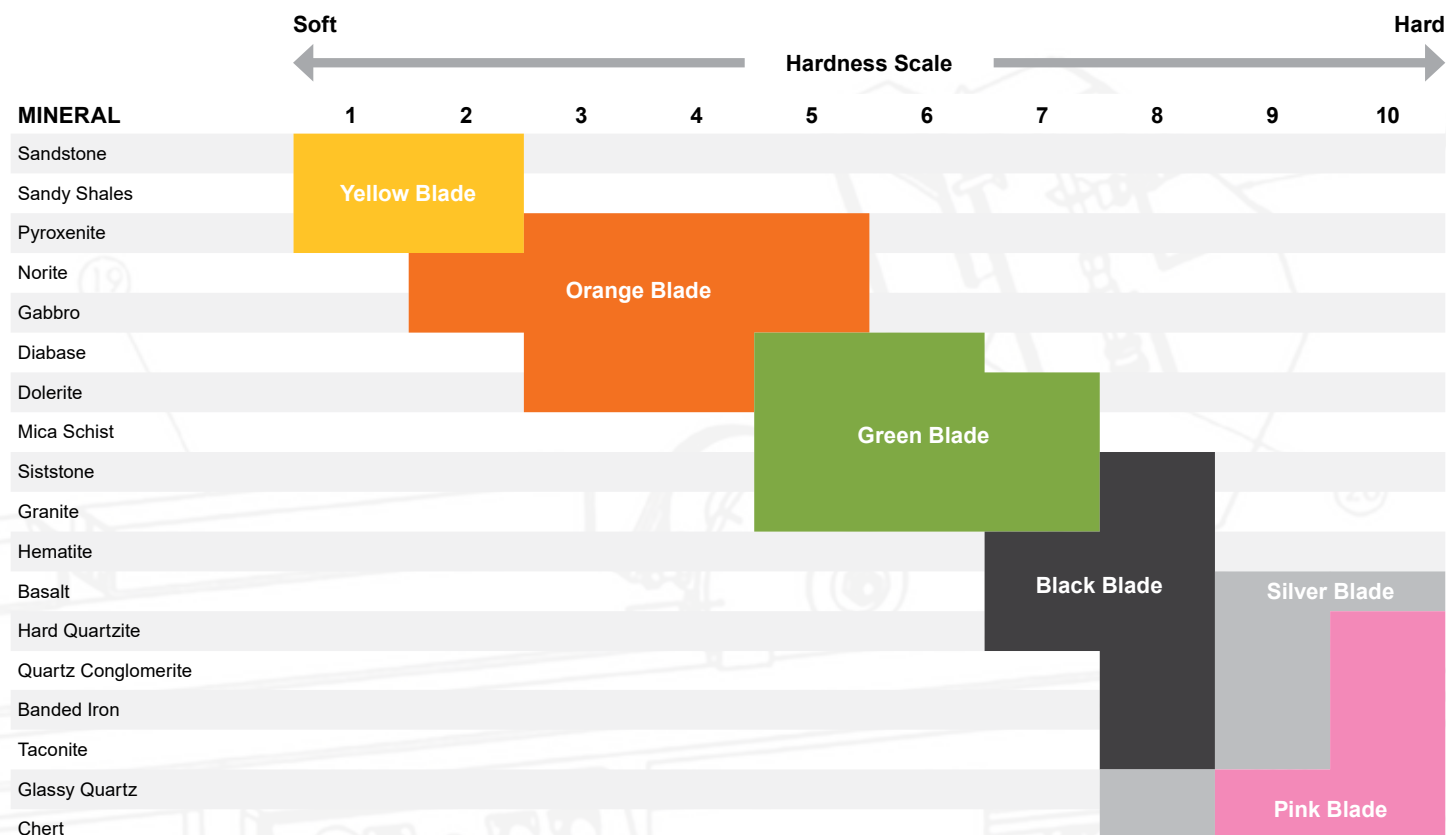
TICK	PROCEDURE
	Check for any out of service/isolation tags for information
	Check power leads connected correctly and power cable in good condition with power switched on at the mains
	Check core saw area free of any potential trip hazards
	Check that there is a blade on the blade shaft and that it has sufficient segments
	Check water supply hose and fittings connected correctly and in good condition and that the water is running
	Check drainage pipe is draining water well away from the work area, alternatively ensure Recycle Water unit is in place and connected
	Check the blade hood is locked and into place
	Check gully is clear of all cuttings
	Check the sensor on the hood is working by lifting up the red arm on the hood/press the start button if the saw starts shut the saw down at mains and tag out then report
	Check emergency stop button/start saw press emergency stop button if saw still works turn off at mains and tag out then report
	Only if you are satisfied with all the checks you can start cutting core

Name \_\_\_\_\_

Signed \_\_\_\_\_

## 13. ALMONTE CONSUMABLES

### Almonte Core Saw Blades



**PLEASE NOTE:** THIS GUIDE IS INTENDED ONLY AS AN INDICATION OF THE TYPE OF BLADE THAT COULD BE USED ON DIFFERENT MINERALS. IT IS KNOWN THAT WITHIN EACH ROCK TYPE, THERE ARE VARIATIONS AND DIFFERENT LEVELS OF ABRASIVENESS.

#### Pink Diamond Blade

The Pink Blade is used for very hard to extremely hard core, complementing the black blade.

Available in 300 mm (12inch).



#### Black Diamond Blade

The Black Blade is used for hard to very hard cores e.g. Magnetite & banded iron.

The Green Blade is an alternative and is dependent on the composition of the rock.

Available in 300 mm (12inch) and 350mm (14inch) diameters.





### 13. ALMONTE CONSUMABLES

#### Almonte Core Saw Blades

##### Green Diamond Blade

The Black Blade is the first choice for harder materials, but the Green blade is an alternative and is dependent on the composition of the rock.

The Green Blade will cut slightly harder material than the Orange blade.

Also available as a sound-dampened blade to special order.

Available in 300 mm (12inch) and 350mm (14inch) diameters.



##### Orange Diamond Blade

The Orange Blade will cut medium to hard material.

Also available as a sound-dampened blade.

Available in both 300 mm (12inch) and 350mm (14inch) diameters.



##### Yellow Diamond Blade

The Yellow Blade will cut soft to medium hardness material.

Also available as a sound-dampened blade.

Available in both 300mm (12inch) and 350mm (14inch) diameters.



### 13. ALMONTE CONSUMABLES

#### Almonte Core Guides

##### BQ Core Holder

Ergonomic handles, these are used for solid or fractured core.



##### NQ Core Holder

Ergonomic handles, these are used for solid or fractured core.



##### NQ2 Core Holder

Ergonomic handles, these are used for solid or fractured core.



##### HQ Core Holder

Ergonomic handles, these are used for solid or fractured core.



##### PQ Core Holder

Ergonomic handles, these are used for solid or fractured core.



## 13. ALMONTE CONSUMABLES

### Almonte Core Guides

#### BQ-NQ-NQ2-HQ V-Core Holder

One size V-core holder suits core from BQ to HQ.  
For competent core.



#### PQ V-Core Holder

PQ V-core holder with ergonomic handles.  
For competent core.



### Almonte Recycling Unit

- » The water recycle unit was designed with water preservation in the forefront of our minds.
- » Using the water recycle unit will save hundreds of litres per shift.
- » It has a maximum capacity of 200 litres.
- » The externally mounted, heavy duty water pump is manufactured by Davey and can be supplied with either 50Hz or 60Hz single phase power supply.
- » After researching, we found that a submersible pump, due to being under water which contains various minerals, was more likely to have corrosion issues with the seals. Having an externally mounted pump means that we are not limited by size and have chosen a pump with a possible output of 225 lpm and has a Stainless Steel impeller and main pump shaft.
- » Although the pump is external and not submersed, we still chose one that has corrosion resistant componentry and is fitted with thermo protection for safety.
- » The tank is fabricated from aluminium and is primed and powder coated. It is supplied with all the fittings to use immediately with the Core saw.
- » No changes need to be made to your Core saw for it have a recycle unit, even if you've not used one before. The tank will simply butt up against the saw so the water draining from the saw falls directly into the tank.



## 14. IMPORTANT INFORMATION

### Power Requirements For The Almonte Core Saw

The Almonte Core Saw is powered off of two drives in the control box. Both of these drives have earth leakage built into them.

To power up one of our Core Saws, you have two options:

- Plug the saw into a 20A or 32A 4 pin 3 phase outlet.  
Please note: As standard, 208V-240V are supplied with 32A and 360V+ are supplied with a 20A plug.
- To hard wire the core saw into your facility's power supply  
If using a gen-set, it must Have A Minimum Of 25kVA and be used solely for the saw

**Any structural or electrical modifications requires approval from Almonte Diamond Pty Ltd**

*For further information or assistance please do not hesitate in contacting our electrical installation engineers,  
Dave or Darryn on 08 9302 3111*





## CONTACT

### Almonte Head Office

Unit 4, 66 Truganina Road  
Malaga, Perth 6090  
Western Australia

Tel: +61 (0)8 9209 2812  
Fax: +61 (0)8 9209 2721  
Email: [supply@almonte.com.au](mailto:supply@almonte.com.au)

### Australia

**Paul Misfud - Manager**  
Mobile: +61 439 487 770  
Email: [paul@almonte.com.au](mailto:paul@almonte.com.au)

### Accounts

Email: [neil@almonte.com.au](mailto:neil@almonte.com.au)



## Agents Australia

### Westernex Perth

66 Truganina Road  
Malaga, Western Australia, 6090  
Tel: +61 (0)8 9209 8500  
Email: [perth@westernex.com.au](mailto:perth@westernex.com.au)

### Westernex Kalgoorlie

18 Kinclaven Way  
Broadwood, Kalgoorlie, West Australia, 6430  
Tel: +61 (0)8 9091 1152  
Email: [kalgoorlie@westernex.com.au](mailto:kalgoorlie@westernex.com.au)

## Agents Global

### Africa

Westernex Africa  
12 Julian Way  
Somerset West Business Park  
Cape Town, South Africa, 7129  
Contact: Rob Lees  
Tel: +27 (0) 73 234 2845  
Fax: +27 (0)28 313 2845  
Email: [rob@almonte.com.au](mailto:rob@almonte.com.au)

### Latin America

EIG – Equipos e Insumos para Geología  
Av. El Retiro Parque los Maitenes #1329  
Pudahuel, Santiago  
Chile – CP 90200000  
Contact: Miguel Angel Valdés  
Tel: +56 2 2757 1700  
Email: [mva@eig.cl](mailto:mva@eig.cl) / [mva@huanacu.com](mailto:mva@huanacu.com)

### USA

CGS Mule  
1490 Linda Way  
Sparks, NV 89431  
Contact: Sales  
Tel: +1 (775) 358-0923 or toll-free  
800-247-6853  
Email: [mulebox@cgsml.com](mailto:mulebox@cgsml.com)

### Westernex Brisbane

14 Hasp Street  
Seventeen Mile Rocks, Queensland, 4073  
Tel: +61 (0)7 3376 2422  
Email: [brisbane@westernex.com.au](mailto:brisbane@westernex.com.au)

### Westernex Mt Isa

13 Ryan Road (entry off Davis Road)  
Mount Isa, Queensland, 4825  
Tel: +61 (0)7 4743 2122  
Email: [mtisa@westernex.com.au](mailto:mtisa@westernex.com.au)

# ALMONTE<sup>®</sup>

DIAMOND PTY LTD

*Almonte Diamond Pty Ltd*

**AUSTRALIA**

Unit 4, 66 Truganina Rd, Malaga, WA 6090 Australia

*E:* [supply@almonte.com.au](mailto:supply@almonte.com.au) | *T:* +61 (0)8 9209 2812 | *F:* +61 (0)8 9209 2721

**AFRICA / M.E.N.A. REGION**

Contact: Rob Lees

*E:* [rob@westernex.com.au](mailto:rob@westernex.com.au) | *T:* +27 (0) 28 313 2845 | *M:* +27 (0) 73 234 2845

[www.almontecoresaw.com.au](http://www.almontecoresaw.com.au)