

# COREWISE

PTY LTD

## Automatic Core Saws



DYNOAUTO2

# Operating and Safety Manual

VERSION 2024 05 17



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# The Core Cutting Blade

The core cutting blade is made to strict engineering design and very high quality. It is specifically designed for the purpose of cutting rock and will not tolerate any misuse or improper operation. It is perfectly balanced which is paramount in its performance, but because of the need to be perfect in this regard, it is very fragile.

These following rules must be strictly adhered to:

- (a) Never, under any circumstances, cut anything without a continuous flow of water onto the blade and into the cut. Failure to observe this will cause the blade to overheat (blue), lose tension (become wobbly), and possibly fail risking severe personal injury.
- (b) Never under any circumstances cut anything that the blade has not been designed to cut.
- (c) Never slam core into the blade; always have a smooth entry.
- (d) Never stall the blade into the rock.
- (e) Never hit the blade sideways.

Observing these simple rules regarding the use of the blade will help keep the job safe and greatly extend the life of the blade.

The life of the blade can be greatly increased by ensuring the proper conditions exist for the blade. These conditions include: proper operator training, correct water flows, correct blade speed, and the correct selection of the blade to suit the ground being cut.

Dynamics G-Ex manufactures blades to strict formulas and are designed to perform within specific parameters. These include: water flows, 8 - 11 litres/ minute and peripheral blade speed. Dynamics G-Ex blades are designed to have optimum performance at a peripheral blade speed of 3,000 metres (9,900 feet) per minute.

Recommendation Guide	Type 1	Type 2	Type 3	Type 4	Type 5
<p>✓✓ <b>Highly Recommended</b></p> <p>✓ <b>Recommended</b> (Not for continual use)</p> <p>✗ <b>Not Recommended</b></p>	Tuff, Shale, gypsum, Clay, Potash, Talc, Soft Sandstone, Calcite and Soft Sandstone	Marble, Schist, Limonite, Weathered Granite, Siliceous Schist, Serpentine, and Phyllites	Siliceous Volcanics, Hard Schist, Hard Limestone, Gneiss, Basalt, Andesite, Pegmatite	Quartzite, Rhyolite, Tonalite, and Aplite	Chert, Quartz, Red Granite, Jasperite, Strongly Silicified, Glassy Highly Altered, Intrusives and Volcanics
Discoverer® CBLDS Medium-Soft Abrasive	✓✓	✓✓	✗	✗	✗
Discoverer® CBLDS Very Hard	✗	✓	✓✓	✓✓	✗
Discoverer® CBLDS Ultra Hard	✗	✗	✗	✓	✓✓
Discoverer® CBLDS Extreme Hard	✗	✗	✗	✓	✓✓







# Safety

Safety is paramount in any operation and is unfortunately often overlooked in core cutting operations. At this point, it cannot be stressed hard enough that flesh and bone are no match for a high powered core cutting machine spinning at high speeds, with a blade containing the hardest known cutting material.

These following rules must be strictly adhered to:

- (1) No person shall operate a diamond cutting saw without proper instruction and authorisation on the use of and the procedures involved with the operation of the saw.
- (2) Under no circumstances should a diamond core cutting machine be operated whilst under the influence of alcohol or drugs, including prescription drugs.
- (3) **Personal Protective Equipment** - personal protective safety equipment must be worn whilst using a diamond core cutting machine. This includes safety goggles, ear muffs/plugs, tight fitting waterproof apron, steel toe rubber boots, plus any other relative site safety equipment. Gloves can be worn but must be the tight fitting pink household type. All other types of gloves can easily be caught in the blade.
- (4) **Pre-start Checks** - as in the safe operation of any machine it is imperative that the responsible operator performs a pre-start check. Failure to observe this simple safety procedure represents a serious breach of mine regulations and will lead to disciplinary action. Never assume that a pre-start check has been performed. It is a simple task that takes only a few minutes. If you are not sure then redo the pre-start check. Remember that it is designed to protect you.

## NOTE WELL

- The Corewise Auto Saw has been tested at 90db with Discoverer blades. ***It is recommended that the operator uses class 4 hearing protection.***
- Tested to AS 1269.1





## Personal Protective Equipment

Personal protective equipment must be worn whilst using or in the vicinity of a diamond core cutting machine. Special attention should be made to hearing and eye protection.

Diamond core cutting machines are extremely loud and failure to use **approved hearing protection** will result in hearing loss. **Eye protection** must also be worn in the vicinity of a diamond core cutting machine. The blade of the machine is spinning at nearly 3000 rpm and any small chip of rock flying at this speed can cause serious damage to unprotected eyes.

It is also important that the operator is protected from

the spray of the water. The light mist that is present can easily cause an operator to get chilly; extra attention should be paid to this during the winter months.

Mine regulations state that steel toe safety boots must be worn at all times on any mine or exploration site. During core cutting operation, it is recommended that **rubber steel toe boots** be worn to prevent the operator's feet becoming wet. The type of boots worn should also have good tread to prevent the operator slipping in the wet conditions. Gloves can also be worn, but it must be stressed that only the **tight fitting household type gloves** should be worn. Loose fitting gloves can easily be caught in the blade.



# Minimum Personal Protective Equipment

Hearing  
Protection



Earmuffs

Eye  
Protection



Safety  
Glasses

Hand  
Protection



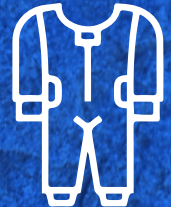
Protective  
Gloves

Foot  
Protection



Steel  
Caps

Clothing



No Loose  
Sleeves

## Additional Recommendations

Rubber  
Boots



Ensures Dry  
Feet

Rubber  
Apron



Prevents  
Wet Clothing

Face  
Shield



Extra  
Protection



# Detailed Procedure Prestart

- (1) Ensure work area is clean
- (2) Lubricate pusher chain belt if fitted
- (3) Inspect blade for wear
- (4) Turn water on
- (5) Check if drain pipe is securely fitted and waste is directed away from work area
- (6) Turn power on at mains
- (7) Ensure blade guards to be down and locked
- (8) Wear proper PPE
- (9) With a grease gun, apply grease to the nipples located on the left and right sides of the machine, as well as to the bearings on the blade shaft assembly.



## PROPER CORE BOAT LOADING TECHNIQUE

Place the core boat into the channel with both hands:

1. Hold the back side of the boat up with your left hand
2. Place the front side of the boat down first
3. Release your right hand from the front of the boat
4. Place the back of the boat down which allows the teeth on the bottom of the boat to engage with the chain.



## Start Up

1. Pull emergency stop button on control panel
2. Press start button on control panel
3. Press emergency stop button to ensure machine stops
4. With a foreign object, trip the proximity switch
5. If machine fails to stop, cease operation immediately, tag machine and report fault
6. Repairs are to be carried out by qualified personnel only

## Cutting Core

1. Load core into V-core holder; the machine will hold 3 V-core holders
2. Place V-core holder into automatic feed slot, ensure the lugs are furthest away from the blade
3. Remove V-core holder from right side of machine, and repeat steps 1 and 2

## Shutting Down

1. Check all core and V-core holders are removed from the machine
2. Turn the feed switch to the off position
3. Push the stop button
4. Turn off mains
5. Turn water off

## End of Shift

1. Wash down machine with a broom or brush
2. Wash out V-core holders
3. Clean all debris from floor area
4. If your machine is fitted with a chain belt, start saw, turn feed switch to forward, and allow feed chain one complete revolution, spraying the chain with a suitable lubricant
5. Turn feed switch to off and shut the saw down

### ⚠ TAKE NOTE

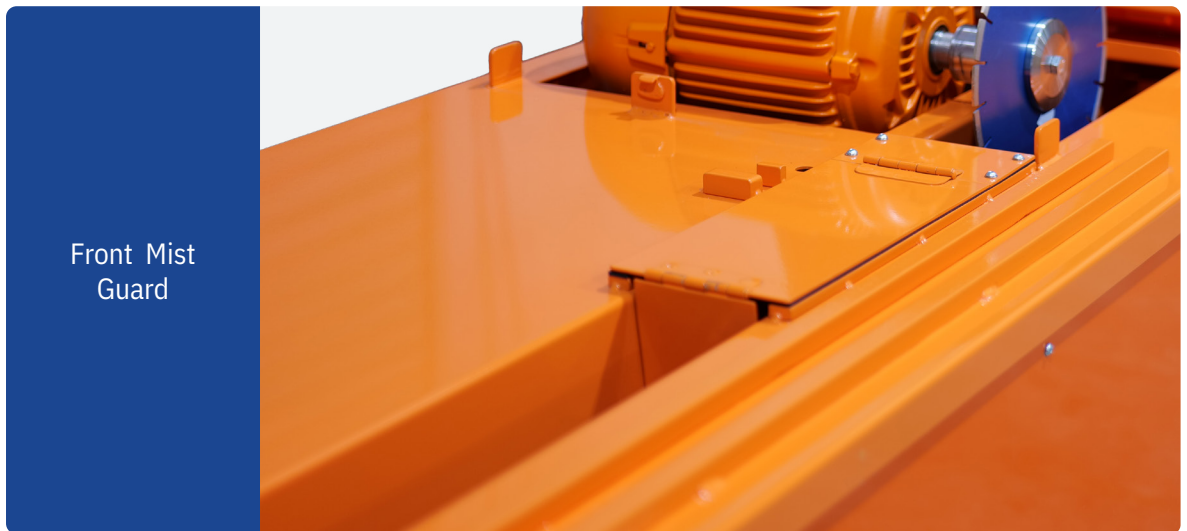
- Apply suitable chain lubricant to the chain at the end of every day.
- Apply anti-seize to the thread where you fit the blade on each blade change.







Blade cover housing with lock down latches and water tap



Front Mist Guard



Core Guides/  
Core Boats in  
automatic  
feed slot



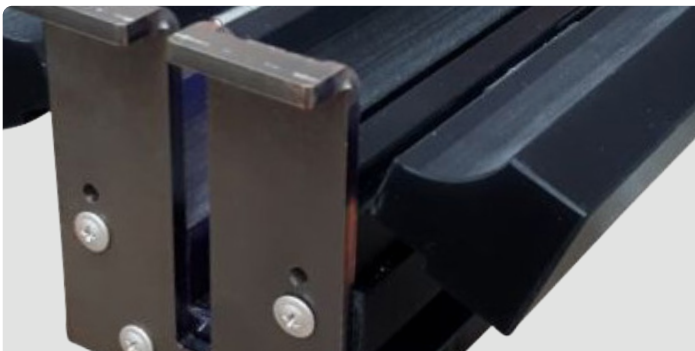
# Options and Spare Parts



## Water Recycling Tank

**DYNOATNK**

Corewise Automatic Recirculation  
including Pump



## Core Holders

**BKNCGP-H**

Discoverer Plastic Broken Core Guide  
- HQ (63.5mm) Light Blue

**BKNCGP-N2**

Discoverer Plastic Broken Core Guide  
- NQ2 (50.7mm) Orange

**BKNCGP-LT**

Discoverer Plastic Broken Core Guide  
- LTK60/NQ3 (45.1mm) Dark Green

**BKNCGP-P**

Discoverer Plastic Broken Core Guide  
- PQ (85mm)

**BKNCGP-N**

Discoverer Plastic Broken Core Guide  
- NQ (47.6mm)

**BKNCGP-H3**

Discoverer Plastic Broken Core Guide  
- HQ3 (61.1mm)

**AUTCGP-P**

Discoverer Plastic Open Top Core  
Guide – PQ (85mm)

**AUTVCGP-N**

Plastic V-Core Guide HQ/NQ/NQ2





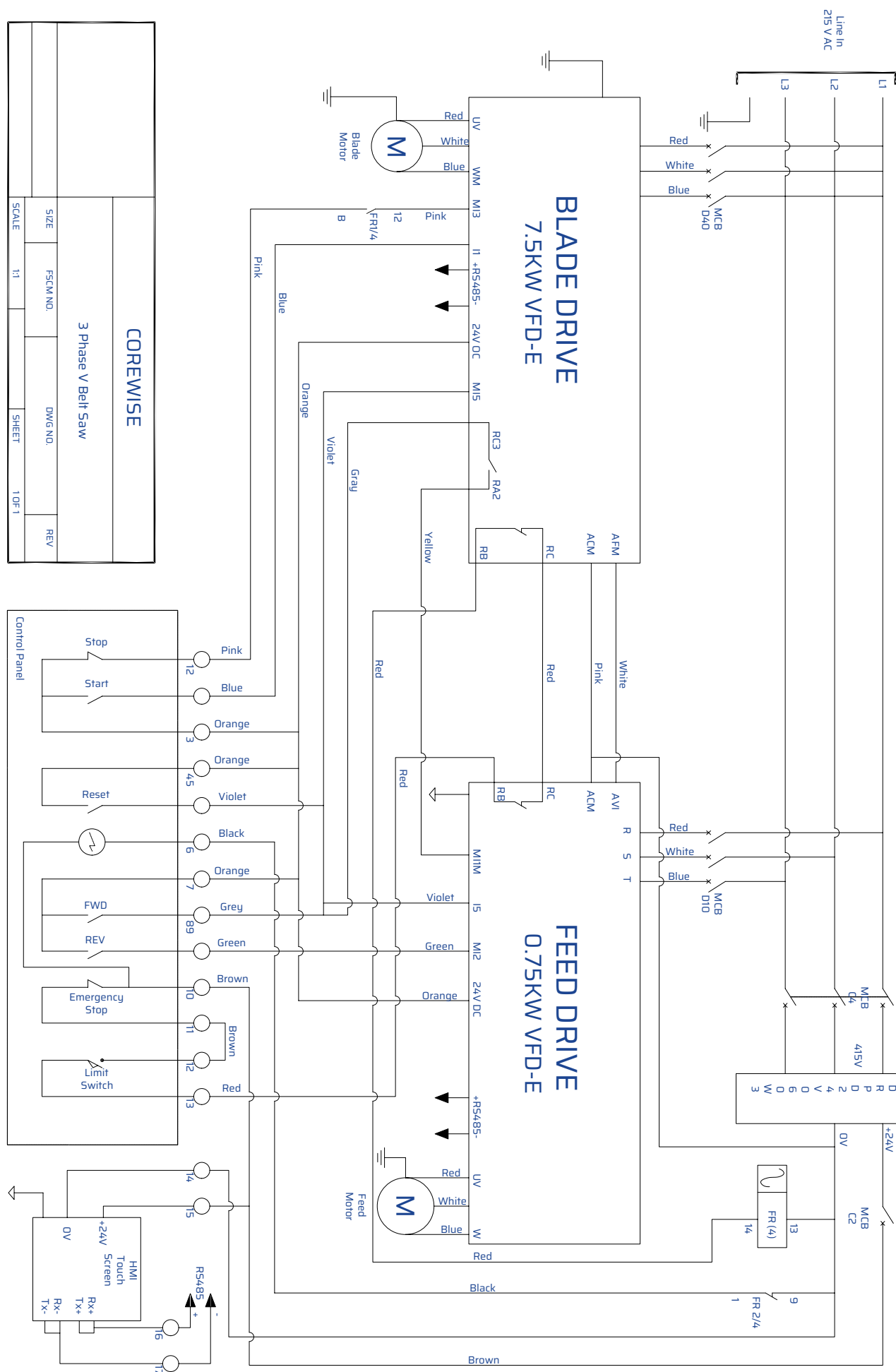
# Options and Spare Parts

## Spare Parts

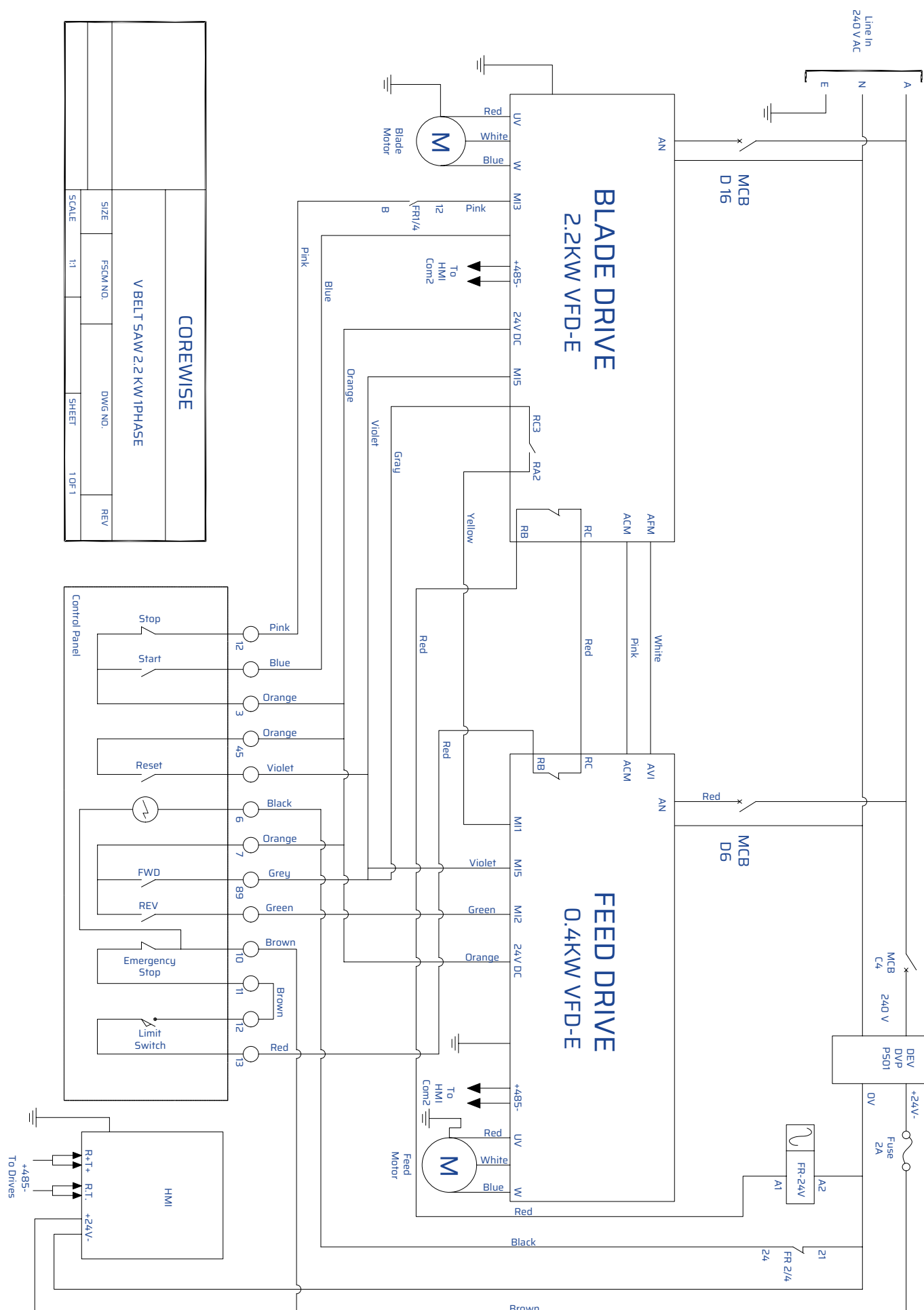
<b>GSBA210</b>	Spare Chain for the Single Phase Automatic Core Saw Unit
<b>GSBA29</b>	Spare Chain for the 3 Phase Automatic Core Saw Unit













## SAW APPLICATION CHART

M A T R I X	S E G M E N T	H A R D E R	S O F T E R	M O R E  A B A S I V E  
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## RECOMMENDED PERIPHERAL SPEED

3,000 metres / 9,900 feet per minute



# Automatic Core Saw

## Pre-start Check

### Personal Protective Equipment

		Check		Check
Eye Protection	Clean		Secure	
Ear Protection	Clean		Secure	
Rubber Apron	Not Torn		Check	
Rubber Safety Boots	Not Leaking		Good Tread	
Gloves	Correct Type		Good Fit	

### Housekeeping

		Check		Check
Clear of Tripping Hazards	No Debris		No Hoses etc	
Machine Clean	No Debris		Clean	
Tray's Positioned Correctly	Clearly Marked		Orientation	
Log Sheet Ready	Clearly Marked		Correctly Marked	

### Machine Checks

		Check		Check
Blade Guard	Down		Locked	
Proximity Switch	Trip Lever		Stops Machine	
Electrical Cable	Not Exposed		Not Frayed	
Grease Nipples	Apply Grease		Splash Shield	
Water Hoses	Secure		Working	
Chain Lubricated	Chain		Shaft	
Emergency Stop Button	Pulled Out		Works	
Drain Pipe securely fitted and waste is directed away from Work Area	Secure		Direction	

### Blade

		Check		Check
Blade	Clean		Secure	
Blade	No Cracks		Visual Check	
Flange	Correct Size		Tight	
Segments	None Missing		Sharp	
Waterflow	Onto Blade		Correct Volume	

### Comments

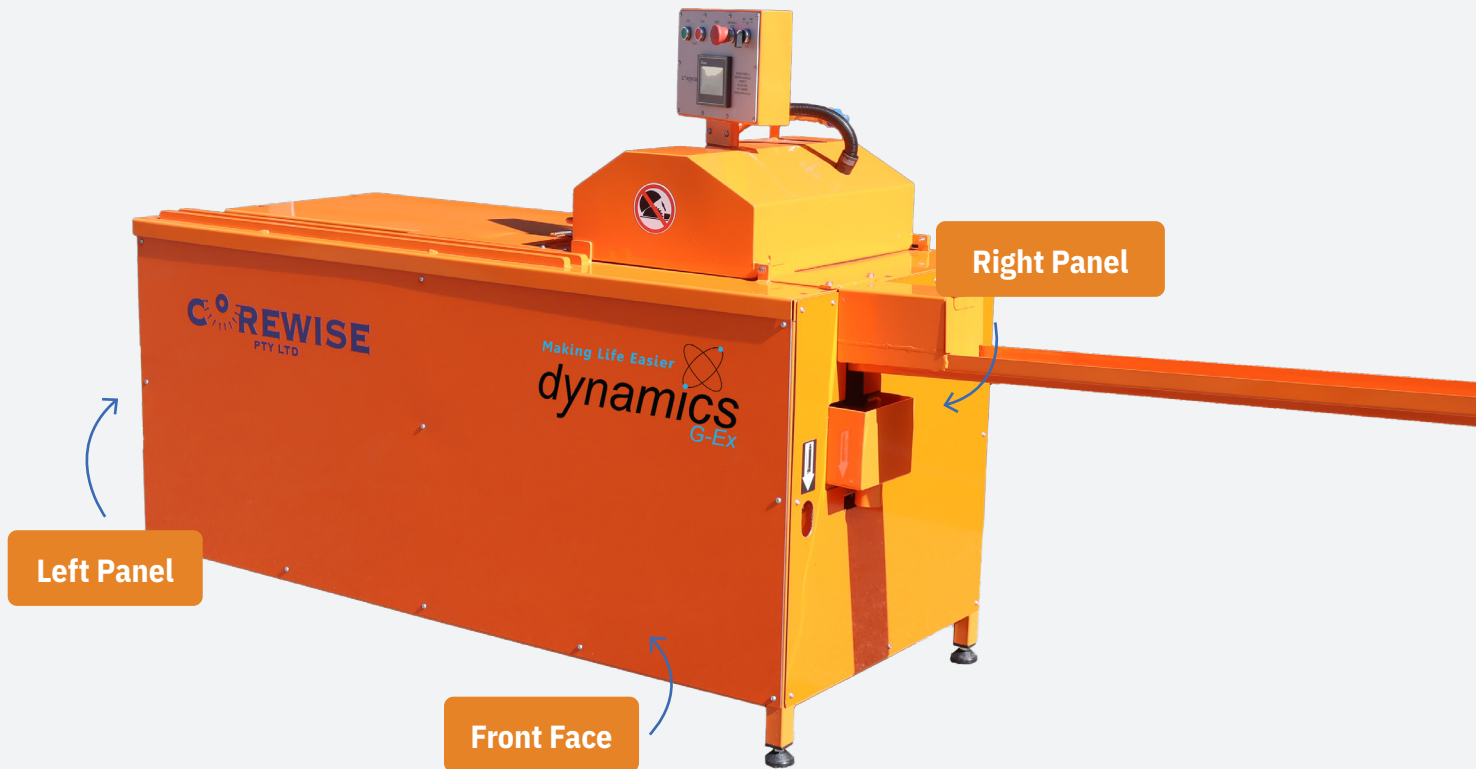

Operator's Signature: \_\_\_\_\_  
Supervisor's Signature: \_\_\_\_\_

Date: \_\_\_\_\_  
Date: \_\_\_\_\_



# How to

All panels shown as described in the following procedures



## Change Drive Chain

1. Remove left and front panels
2. Loosen left pillar blocks and tensioners
3. Find chain link (always facing front panel) and remove
4. Remove chain
5. Refit new chain
6. Tension chain until it supports its own weight
7. Tighten the 4 pillar bolts
8. Refit panels





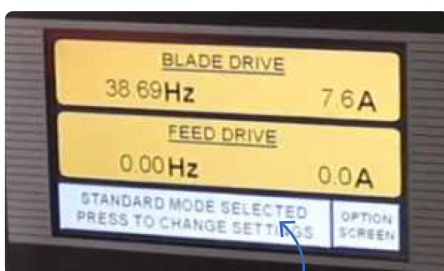
# How to

## Blade Replacement

1. Unlock blade housing and swing open
2. Loosen and remove blade locking nut
3. Remove washer
4. Remove blade
5. Fit new blade onto the shaft, and ensure that the locating pin is secure to the blade (Note: The directional arrows on blade **MUST NOT** face front of machine when blade is installed)
6. Fit shaft washer
7. Blade locking nut and tighten securely
8. Close blade housing cover and lock down



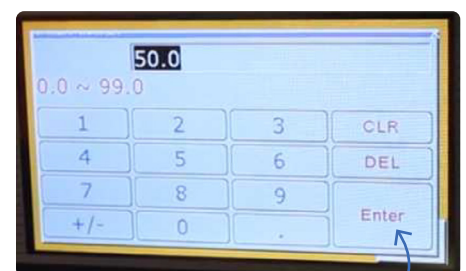
## Adjust the Chain Speed



Place finger on **White Section** of control panel



This screen will be displayed then place finger on **Numeric Percentage**



Type speed  
(The higher the number, the faster the speed)

Press **Enter** once finished



# Automatic Core Saw Specifications

Product Code	DYNOAUTO (3 PHASE)	DYNOAUTOS (SINGLE PHASE)
Blade Guard Capacity	300 mm	
Max Depth of Cut	Cuts from B to P size core	
Blade Arbour Size	25.4 mm	
Blade Shaft Drive	Two V-Belts	
Blade Guard	Stainless Steel	
Blade Coolant	Water	
Frame	Powder-coated Galvanised Steel	
Weight ( <i>in Kg</i> )	440	170
Crafted ( <i>in Kg</i> )	543	259
Dimensions ( <i>in mm</i> )		
Width	1043	
Height	1406	
Length	2048	1638

## Power Source

Product Code	DYNOAUTO (3 PHASE)	DYNOAUTOS (SINGLE PHASE)
Motor	Electric	
Power	7.5 Kw	2.2 Kw
HP	10	3
Voltage	80 - 460	220 - 240
Blade Shaft RPM	2940 @50 Hz, 3530 @60 Hz*	
Phase	3	1
Max Load Current	12 Amp	10 Amp
Starter	Variable Speed Drive	
Coolant	Air	