

ECHIDNA



Echidna Rocksaws

Diamond & Tungsten-carbide




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Echidna leads the way with hydraulic excavator mounted rocksaws.

Safety, reliability and economy are our highest priority, which is why **Echidna** has developed:

- ⚙ fast acting automatic brake
- ⚙ reversible blade rotation
- ⚙ double swivelling shield
- ⚙ a wide range of models to match your excavator from 1 to 70 tonnes
- ⚙ a range of accessories to improve productivity

Echidna can also provide custom accessories and modifications to fine tune your rock cutting system to your specific needs.

 All Echidna rocksaws have CE certification

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Applications



Construction

In the construction industry, **Echidna** diamond rocksaws are suited to a wide range of applications. For example:

- ✿ excavations for footings, basements, lift shafts
- ✿ tunnelling
- ✿ construction and maintenance of roads
- ✿ where access is poor and in populated areas
- ✿ trenches for underground piping and cables



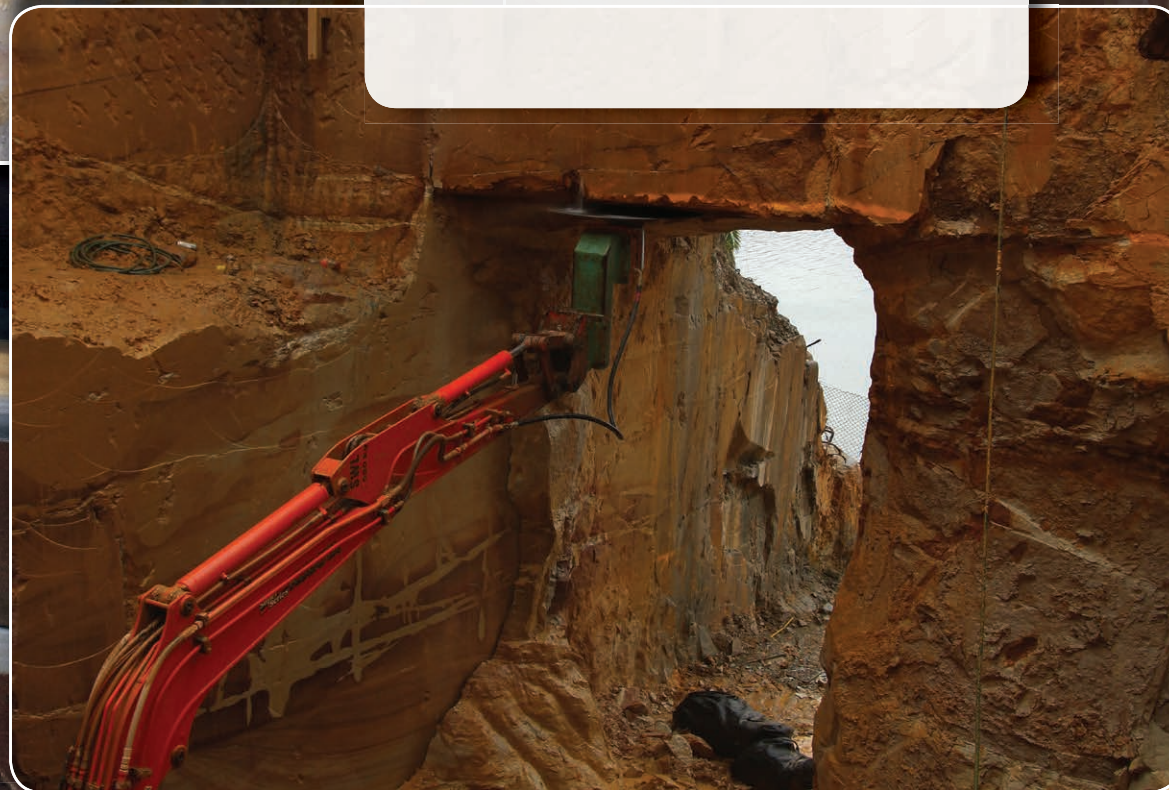
Quarrying

Cutting with **diamond rocksaws** produces a good surface finish, wastes very little material and can be done with high precision.

This makes **Echidna** excavator diamond saws highly suitable for mining and quarrying stone, including stone of high hardness (eg basalt, granite).

With dual blade saws or single blade saws with adjustable offset extension, parallel cuts of high precision can be achieved.

Where there is no cooling water available and/or the material is not too hard, **carbide tipped** saws can be used. For compressive strength below 40MPa, these are just as fast as diamond and require much less operator skill.



Applications

Demolition

Echidna diamond rocksaws can be used in demolition as an alternative or addition to hammers and shears.

Our **high power, standard** and **high speed** (small blade) models will cut through a range of materials including steel reinforced concrete.

Materials can be cut into manageable sized pieces to be taken away for processing and recycling.



Forestry

Echidna excavator **stump grinders** are a powerful alternative to stand-alone units.

They use the power and reach of an excavator to remove stumps quickly and efficiently even in difficult to access locations.

The organic material from the stump is left in place to decompose and enrich the soil, as compared with the alternative of ripping the stumps out of the ground with the excavator and then burning or otherwise disposing of the stump.

Echidna rocksaws can easily be fitted with a **wood-cutting** or brush cutting blade for cutting firewood, tree trimming and horizontal cutting of trees.



Other

The applications of the technology developed by **Echidna** is not limited to the construction, demolition and forestry industries.

With our knowledge of materials and machinery, **Echidna** machinery can be adapted to a wide range of applications with off-the-shelf and custom designed accessories and systems.



Diamond Rocksaws

Echidna has developed 3 distinct kinds of diamond blade rocksaws.

Rock cutting for Excavations, Quarrying and Trenching

For general excavation works, such as bulk excavations and trenching, we recommend the **high power** (for excavators 10 tonnes and upwards) and **standard Echidna** diamond rocksaws.

These rocksaws can also be used for cutting other materials such as bitumen, concrete or wood.

Rock, Bitumen & Concrete Cutting

Echidna recommends **high-speed** diamond rocksaws for demolitions, road cutting and other applications that do not require great depth of cut, and where economical and fast-cutting small blades are the best option.

The blades of the **high-speed** machines spin faster than the **standard** rocksaws making them a powerful and economical choice for cutting concrete, rock, bitumen and asphalt.

With their high rotation speed, these rocksaws use much smaller blades than the **standard** diamond blade rocksaws.

This makes them less cumbersome to handle, less likely to be damaged and more economical to use, as the cost of the diamond blades decreases rapidly with decreasing diameter.



Tungsten Carbide Rocksaws

Tungsten-carbide rocksaws

Suitable for earthmoving, excavation, quarrying and mining, **tungsten-carbide** rocksaws can cut medium-hard, soft and clay rich materials.

Although slower and less efficient than diamond tipped saws for hard materials, the **tungsten-carbide** tipped rocksaws have these advantages:

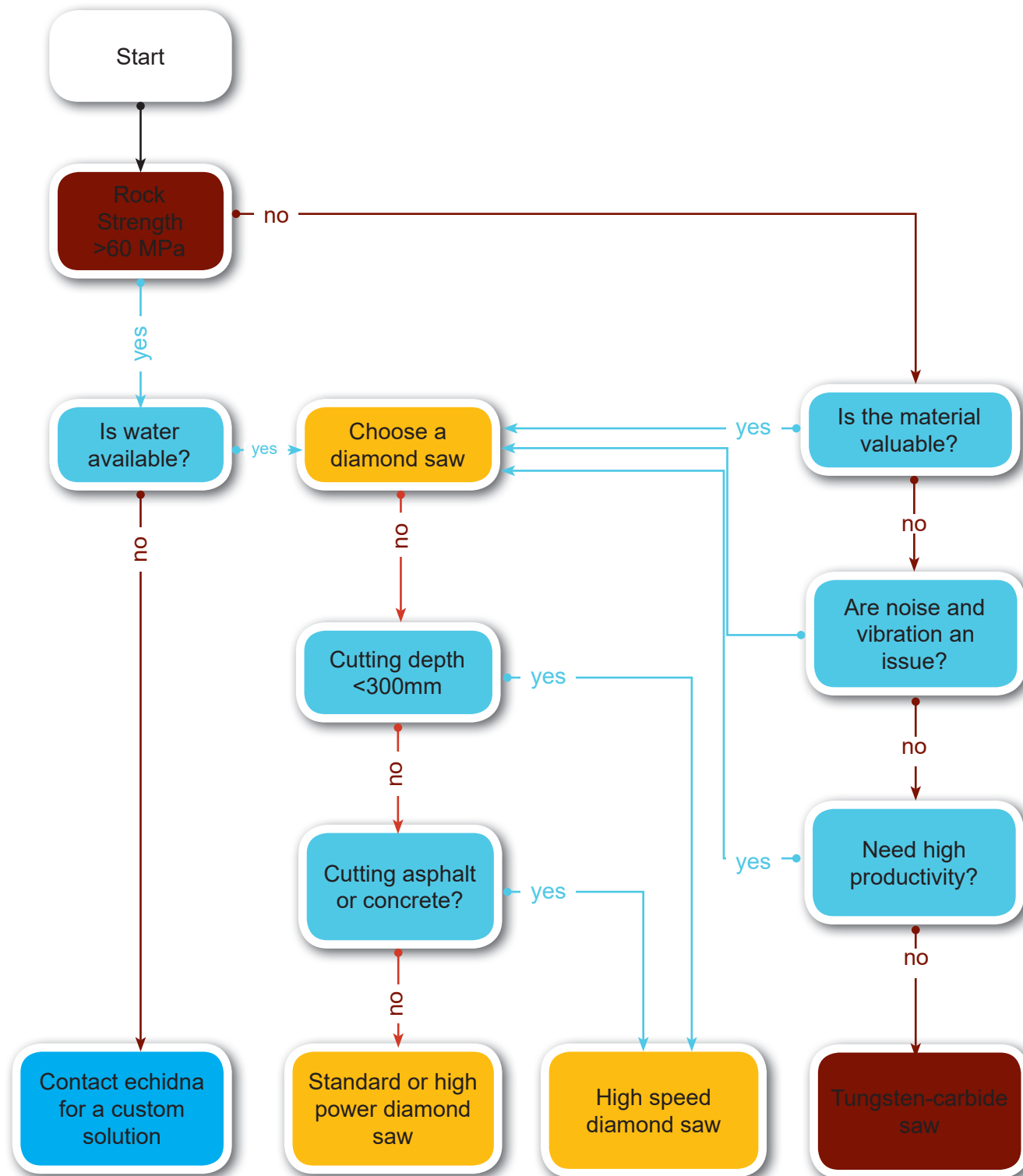
- ⚙ damaged or worn picks can be easily replaced
- ⚙ no need for cooling water during cutting
- ⚙ better suited for soft materials than diamond saws
- ⚙ lower requirement on operators skill

Echidna has **tungsten-carbide** rocksaw models available for excavators from 8-80 tonnes. They are designed to minimise weight and be compact in size, while maintaining a very robust construction.

We have many options to tailor them to your application such as **offset-extensions** for cutting outside of the excavator tracks and the cutting **optimiser** to improve cutting efficiency.



Selection guide



The table below lists the recommend match between excavator, rocksaw and blade size. It is possible to use sizes outside of the recommended range, however, following these recommendations will result in optimum performance for an average excavator.

The range of carrier sizes is also only indicative of optimum size-to-performance match. As a rule it is safe to attach a large saw to a small excavator, but when a small saw is mounted on a large excavator, the correct flow and pressure must be applied to prevent damage to the attachment.

Diamond Rocksaws

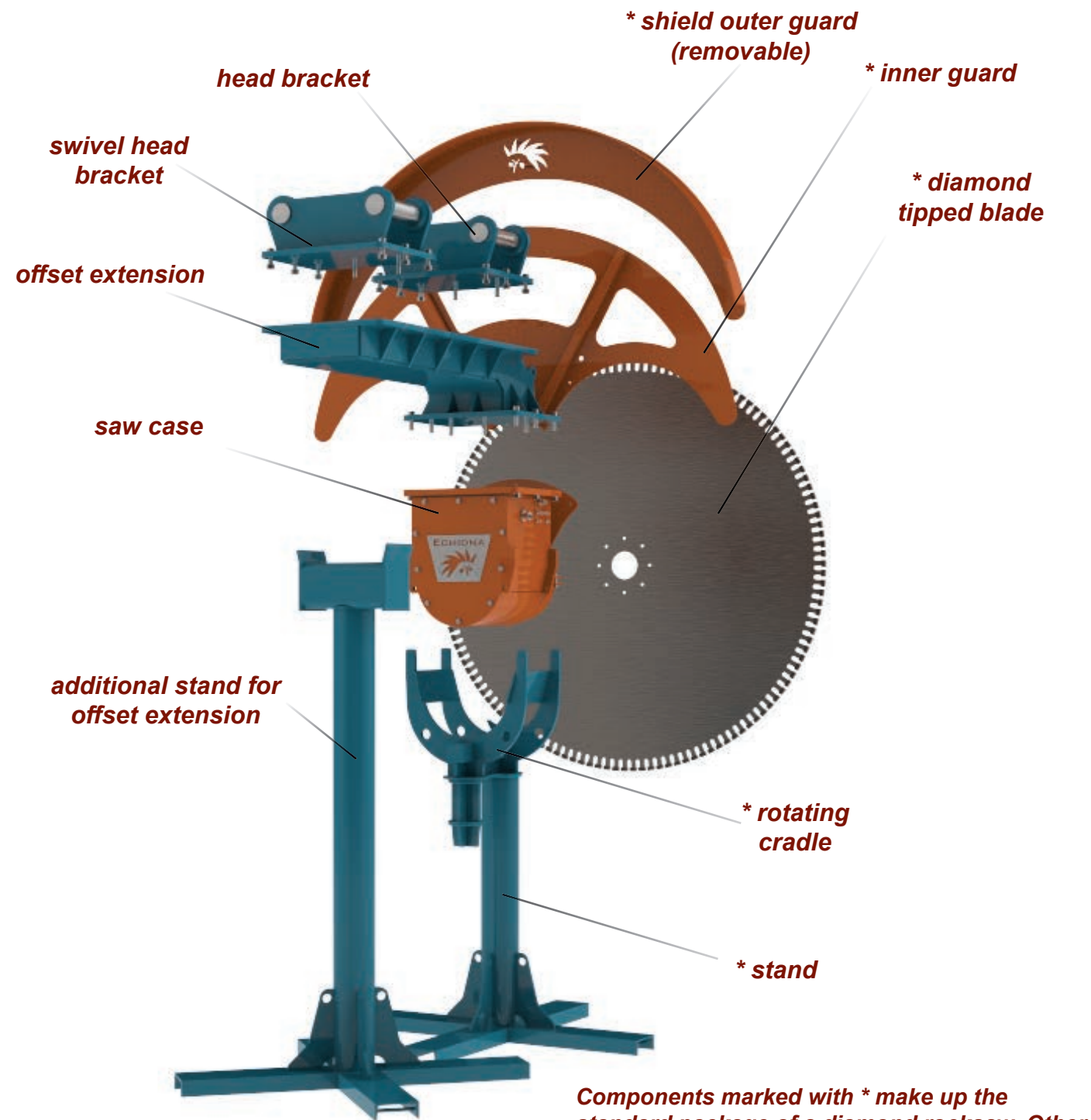
Model		Excavator Range / tonnes		Blade Range /mm	Cutting Depth /mm	Power /kW
		Recommended	Max			
D1S	32	0.7 - 0.9	2	400 - 800	125 - 325	6.8
	40	0.9 - 1.2	2	500 - 1000	175 - 425	6.8
	50	0.9 - 1.5	2	700 - 1200	275 - 525	8
	80	1 - 4	5	800 - 1200	325 - 525	13
	100	1 - 4	5	1000 - 1200	425 - 525	13
D2S	125	3 - 5	6	1200 - 1400	525 - 625	17.5
D3S	160	4 - 8	12	1000 - 1400	380 - 580	26.5
	200	6 - 10	12	1200 - 1600	480 - 680	32.5
	250	8 - 12	12	1200 - 1600	480 - 680	41
	315	10 - 14	14	1600 - 1800	680 - 780	33.5
D3HP	200	7 - 16	20	800 - 1800	270 - 770	180
D4HP	280	10 - 20	25	1000 - 2200	330 - 930	240
D5HP	530	15 - 30	40	1200 - 2500	420 - 1070	370
D6HP	800	20 - 45	60	1600 - 3500	600 - 1550	470
D2HS	25	1 - 2	8	400 - 600	125 - 225	30
	35	2 - 3	8	400 - 800	125 - 325	43
	40	2 - 4	8	400 - 1000	125 - 425	52
	50	2 - 5	8	400 - 1000	125 - 425	62
D3HS	70	4 - 10	16	400 - 1000	80 - 380	140
	90	4 - 12	16	500 - 1200	130 - 480	180
D4HS	100	10 - 16	25	500 - 1200	100 - 450	230
	130	12 - 20	25	500 - 1400	100 - 550	280

Tungsten-carbide Rocksaws

Model	Excavator Range /tonnes		Blade Range /mm	Cutting Depth /mm	Power /kW
	Recommended	Max			
C4	12 - 20		up to 2000	up to 750	75
C5	20 - 30		2000 - 3000	800 - 1300	135
C6	30 - 60		2500 - 3700	1000 - 1600	260



Diamond Rocksaw Components



Components marked with * make up the standard package of a diamond rocksaw. Other items are optional extras

Features & Accessories

Echidna Diamond Rocksaws

concrete - rock - wood - asphalt

Fast acting automatic brake



Echidna rocksaws have an in built hydraulic braking system. It engages automatically when hydraulic pressure drops below a certain preset level.

This means it operates even in emergency situations such as loss of oil from a broken hose.

The brake system has no mechanical parts. This means no wear, no abrasive dust and no maintenance. It also locks the blade during transport.

Double Swivelling Shield

The protective shield on **Echidna** diamond daws is made up of two independent assemblies.

The inner shield rotates by 360 ° (full circle) around the blade. It is constructed so that its outer rim sits flush with the outer face of the cutting blade.

The outer guard swivels around the inner shield independently by approx. +/- 45 °.

With this arrangement it is possible to open the shield angle to cover most of the blade in situations where surrounding property must be well guarded from the cut debris.

The outer guard provides full protection from both sides of the cutting blade. The outer guard can be removed when cutting along a boundary wall is required.



Features & Accessories

Echidna's range of accessories increases productivity, precision and functionality of the rocksaws.



Reversible Blade Rotation

All *Echidna* diamond saws come with reversible blade rotation. When connected to a two directional circuit, the direction of blade rotation can be changed at any time.

This allows control of the direction in which cut debris is thrown.

The choice of rotation direction is absolutely essential for horizontal cutting, as one must cut against the direction of blade spin.



External motor protection

The construction of the front bearing hub and the sealing arrangement of all *Echidna* diamond saws provides protection against any dirt entering the bearing space, and even allows the saw to be used fully submerged in water.

The bearing hub is robust enough to support multiple blades, with spacers, for slab and trench cutting, and allows conversion of the machine to an excavator stump-grinder or concrete grinder.

Cooling System for High Speed Cutting

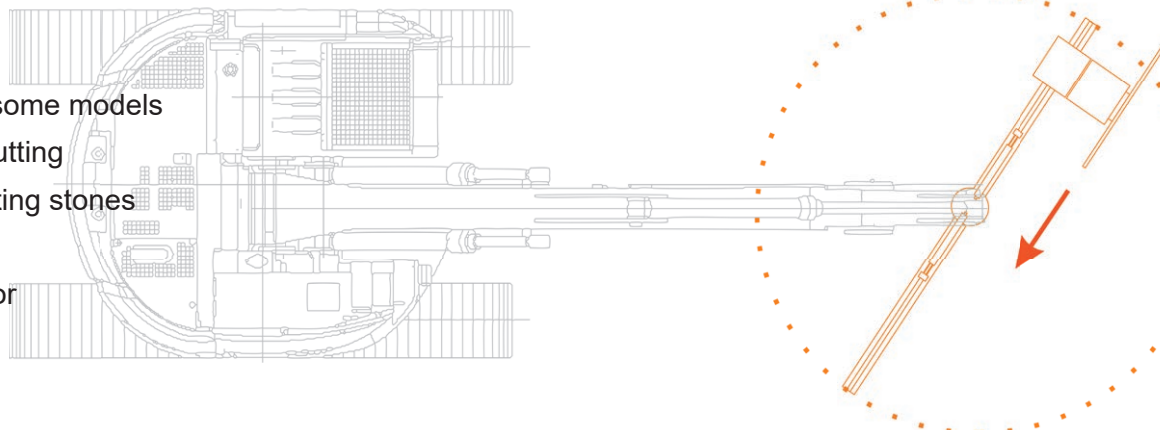
High speed cutting, such as is required for cutting of steel-reinforced concrete or asphalt, generates heat. This substantially shortens the life of the blade.

Echidna has developed a water jet system incorporated into the safety shield, that allows for large flows of water when needed and provides an adjustment of the water jet direction to send the water to exactly where it is needed.



Other Features

- compact size
- short body length
- no case drain required for some models
- single and multiple blade cutting
- high quality blades and cutting stones
- built-in water nozzle
- optional motor speed sensor
- hydraulic test points



Auto Water Switch

Water is required for diamond sawing, to clear the cut and cool the blade. Where availability of water is a problem, and to reduce the amount of waste water on site, a valve is available that automatically opens as the cutting blade(s) starts spinning, and closes when it stops.

Automatic Cutting Optimiser

Echidna has released one of the most significant developments in the field of mobile rock cutting, concrete cutting and demolition works: a Cutting Optimiser for rock saws. It offers these advantages:

- reduces operator fatigue
- improves the daily productivity easily by a factor of 3
- compared to even the best of human operators.
- increases rocksaw blade life by applying optimum pressure for cutting

This hydraulic servo control system takes over from the operator in controlling the feed rate of the rocksaw, be it a diamond or carbide saw.

The device automatically detects the presence of an active tool (eg a rock saw) on the excavator.

When there is no rocksaw present, the excavator functions like without the rocksaw. When a rocksaw is activated, i.e. cutting blade is made to spin, the operator brings the blade slowly into contact with the rock, concrete or other material to be cut and the servo unit automatically detects the rock and takes over the control of the rocksaw movement.

No more exhausting operator hours concentrating on fine control of the joy stick. The operator simply engages the appropriate joy stick into "full throttle" position and the Optimiser does its work. When the joy stick is released the Optimiser automatically and instantly disengages.

Multidirectional Cutting Heads

The *Echidna* multidirectional cutting heads are for situations when cutting is needed at an angle other than vertical, i.e. perpendicular to the excavator linkage pins.

Echidna has developed a range of cutting heads that rotate and slide about and along one or more axes. This is particularly needed in tunnelling, demolition and quarrying works.

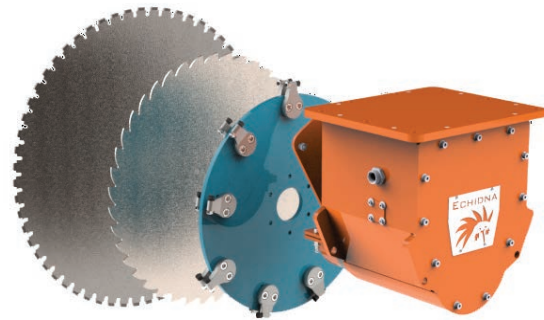


Cutting with
Echidna Rocksaws

Features & Accessories

Wood cutting & Stump Grinding Attachment

The high speed and the robust bearing assemblies of all **Echidna** saws from sizes D1 to D6 are constructed to withstand large axial and radial loads which are needed for stump grinding and wood cutting. **Echidna** offers stump grinding attachments that can be mounted on a saw instead of the diamond blade. The diamond saw can thus be converted in minutes to an efficient stump grinder with all the advantages of an excavator mounted tool, ie reach, flexibility, power etc.



Adjustable Offset Extension

Twin blade saws are often seen as a solution when two parallel cuts are needed. The disadvantages of a twin blade saws are:-

- ⚙ the impossibility of an easy adjustment of the width between the two blades.
- ⚙ power requirements for running two blades may not allow an adequately deep cut (two blades use twice as much power as one)
- ⚙ uneven tension in blades can cause loss of cutting efficiency with large diameter diamond blades.

Echidna has developed an adjustable offset extension whereby only a single blade is used, and the saw is hydraulically offset to any position to make the second cut.



Rotating Head Bracket

The rotating head bracket allows the saw to be repositioned from left to right cut and vice versa, without the need to disconnect it from the excavator.

A manual version is an optional extra for **Echidna** Diamond Rocksaws in the D1, D2 and D3 series that is particularly useful in excavations where access is tight.

For machine sizes D4 and higher this function is motorised for safety reasons.



Other Accessories

- ⚙ Fixed and adjustable head brackets to suit all excavator sizes.
- ⚙ Extension for offset cutting.

Other Attachments

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concrete - rock - wood - asphalt



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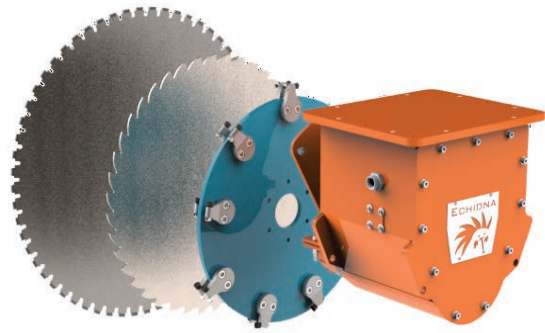
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Other Equipment



Stump Grinders

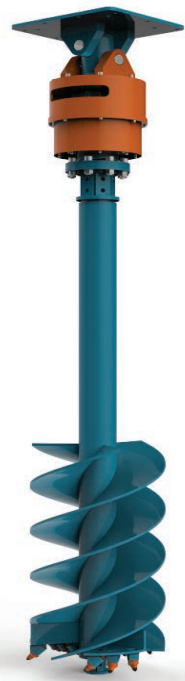


- ⚙️ robust design, fully enclosed case, motor and bearings fully protected from mechanical damage and dirt
- ⚙️ easy blade change for wood cutting, rock and concrete cutting in 2-3 minutes
- ⚙️ water pump attachment
- ⚙️ rotating stand and head bracket included
- ⚙️ 55 reversible spin and automatic brake

Models

- SG2 - c1.5 - 4 tonnes
- SG3 - 5 - 12 tonnes
- SG4 - 10 - 16 tonnes
- SG4HP - 10 - 16 tonnes
- SG5HP - 10 - 24 tonnes

Augers & Auger Drives



Models

- AD3 - 5 - 12 tonnes
- AD4 - 10 - 16 tonnes
- AD5 - 10 - 24 tonnes

Auger

- ⚙️ 3 helical flues for improved drilling performance and reduced tool wear
- ⚙️ bisalloy spine for stiff structure and reduced tool wear
- ⚙️ tip placement for maximum drilling performance

Auger drive

- ⚙️ direct hydraulic drive, no gearing
- ⚙️ external bearing support system
- ⚙️ high pressure rating for high power operation
- ⚙️ universal joint allows large compression forces

Rock Grinders



- ⚙️ twin-head or single-head available for excavators from 20 to 70 tonnes
- ⚙️ up to 810kW of continuous cutting power!
- ⚙️ full length drum support
- ⚙️ sealed drums to keep wheels balanced
- ⚙️ no gear box
- ⚙️ for roadworks, excavations, demolition
- ⚙️ custom modifications and accessories for special purposes available

Rotators



These rotators are suitable for

- ⚙️ suitable for compactors, rock grinders, grapples and grabs, diamond saw multiaxial cutting heads, directional drill guide rails
- ⚙️ parking brake which acts directly on the output shaft protecting the gear train and motor from harmful vibrations.
- ⚙️ no conventional gears
- ⚙️ very high flow through capacity
- ⚙️ compact and robust design

Cutting Systems



Echidna rocksaws can be incorporated into rock cutting systems to :-

- ⚙️ increase productivity
- ⚙️ reduce blade wear
- ⚙️ reduce tooth loss on blades
- ⚙️ increase the safety of operators
- ⚙️ in many applications, to make possible a job with to access restrictions

Rockcutting systems incorporating rocksaws are ideal for quarrying, tunnelling and demolition jobs.





ECHIDNA



All Echidna rocksaws have CE certification



Excavator Stump grinder



Rotating heads



Single and twin head grinders



Augers and auger drives



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ECHIDNA LEADERS IN ROCKCUTTING TECHNOLOGY