

CHOOSE THE RIGHT EXCAVATION MODE ACCORDING TO YOUR NEEDS

DOWN-CUTTING & UP-CUTTING

The long experience in the worksites brought to define **complementary instruments** and a new **working method** that increased the worksite efficiency, meaning more digging hours on the shift hours.

- The complementary instruments are the LASER GUIDE and the TrenchIntel AUTOMATIC GUIDANCE SYSTEM. These instruments allow the machine to proceed along precise straight lines and to produce perfectly flat surfaces with desired angles. This brought to simpler excavation operations with relief for operators and site managers and even easier and more efficient removal of the excavated material.
- The new working method is the UP-CUTTING method which is the inversion of the drum rotation, conveying of the rock through a conveyor belt to side discharge.

Advantages of selective mining over traditional methods:

	<p>SAFE</p>	<p>MINIMUM SITE PREPARATION. READY TO DIG</p>	<p>SMALL GRAIN SIZE SPOIL (<20 cm)</p> <p>recyclable for a multitude of uses</p>
	<p>GREEN</p>	<p>GUIDE MACHINE TO EXCAVATE DESIRED GEOMETRY PRECISELY</p>	<p>PERFORMANCES INCREASED</p>
	<p>RELIABLE</p>	<p>CAN WORK IN VERY NARROW WORKSITES</p>	<p>CUT HARD AND VERY HARD ROCK</p> <p>tested up to 130 MPa UCS unfractured</p>

DOWN-CUTTING

DOWN-CUTTING IS MOST SUITABLE FOR:

- Fractured rock mass
- Brittle (Fracturable) rock
- From weak to medium strong rock

Down-cutting advantages and working mode

Down-cutting version leaves the excavated material behind the machine.

Material can be stockpiled or removed immediately. This version is optimal for soft ores such as gypsum, coal, salt.

- The teeth hit the rock from the top downward and the impact increases the efficiency of excavation if the rock is brittle (highly fracturable).
- All the available power of the Rock Hawg is used for excavating the rock.
- Excavated material is not mixed. Different materials can be separated during the loading phase.

Excavation without conveyor belt

In the down-cutting mode the absence of conveyor belt allows to cut vertical sidewalls, reduces the width of the machine and results in increased efficiency, lower costs and no need for maintenance.



& UP-CUTTING



UP-CUTTING IS MOST SUITABLE FOR:


- Unfractured rock mass
- Tough (not fracturable) rock
- From medium strong up to very strong rock


Up-cutting advantages and working mode

The up-cutting version leaves a clean and flat surface. By discharging the excavated material laterally with a conveyor belt. The area can be immediately re-cut, without any preparation. This is a big advantage as it optimizes the spoil removal and worksite efficiency.

- The teeth hit the rock from the bottom upward. Reduced impact, less vibrations and increased capability to excavate solid, harder rock.
- The total cutting force is increased by crawler pull.
- Excavated material is loaded and stockpiled beside the excavated area.
- There is no need for immediate cleaning of the working area. The Rock Hawk can excavate several times in the same area, thanks to lateral discharge of the excavated material.



 CIVIL BULK EXCAVATION	UP CUTTING	DOWN CUTTING
	Road underpasses	•
Building foundations in city centers (large buildings, metro stations)		•
Large civil bulk excavation not in urban area (roads, harbors)	•	•
Soil reclamation for agriculture		•
No blasting zones of excavations	•	•
Precise levelling of surfaces	•	•
Precise side cuts - vertical side walls		•

 SURFACE MINING	UP CUTTING	DOWN CUTTING
	Coal	
Gypsum		•
Rock salt		•
Iron		•
Weak limestone for road subbase		•
Dolomite	•	
Hard limestone - aggregates	•	
Quarries near sensible targets	•	•
Precise side cuts - vertical walls and very stable benches in quarries		•



Picture 1
Excavation of hard rock for road enlargement below an existing bridge, without stopping regular traffic with 1475 RH up-cutting.

Picture 2
San Antonio, TX - Excavation of hard limestone at the San Antonio limestone quarry with 1475 RH up-cutting.

Picture 3
RH can work up-cutting and down-cutting by changing the attachment (hard rock excavation for foundations of building with 1475 RH down-cutting).

Picture 4
Surface mining in a quarry in Italy with 1150 RH down-cutting.