

FIVE WIRE



Hedel.ind.br



Our History

Hedel was founded in 1991 by two German descendant immigrant brothers. Driven by the passion of developing solutions even more efficient and innovative.

With great knowledge in welding and machining they started the fabrication of rock cutting machines. In 2002 the first triangular multi-wire device was developed. Now known as Hedel Delta Wire.

In 2010 started being run by Diego Hedel . A new management model guided Hedel to focus on the development of multi-wire devices and to perfect the applied technologies so that in 2012 Hedel became the main multi-wire supplier and manufacturer in Brazil. Attending the most demanding clients with quality, yield and best value, key points which opened the doors to the international market.

With multiwires installed in more than 10 countries, Hedel currently has commercial partners and customers in America, Africa, Europe and Asia. With its strength and innovation, it is the largest manufacturer of multiwires in the world.

Why Choose Hedel and invest on a five Wire?

- Only mobile multi-wire manufacturer;
- Possibility of cutting thin slabs and thick cuts of up to 20 cm;
- Possibility of using 5.3 mm, 6.3 mm, 7.3 mm or 8.3 mm wires;
- Possibility of cutting irregular blocks and small blocks;
- Possibility of cutting larger blocks, up to 3,5 m wide x 2.3 m tall;
- Cut programmer for blocks A, B and C;
- Automatic coiner allows the minting of slabs without stopping the cut.

Important Features:

The Five Wire is equipped with inspection ports positioned at strategic points, making it quick to change the thickness of slabs to be cut;

The replacement of all rubbers can be carried out by the operator of the machine, in the field, as the rubbers are fitted to all machine flywheels;

A 20 meter wire circuit, being able to use the same wires as multi-wire, with greater facility of purchase or even reuse used wires;

Stainless steel protection and painting with anti-corrosion treatment, making the life of the Five Wire longer;

Easy installation, all equipment arrives at the installation site tested and pre-assembled at the factory, making installation possible in any part of the world.

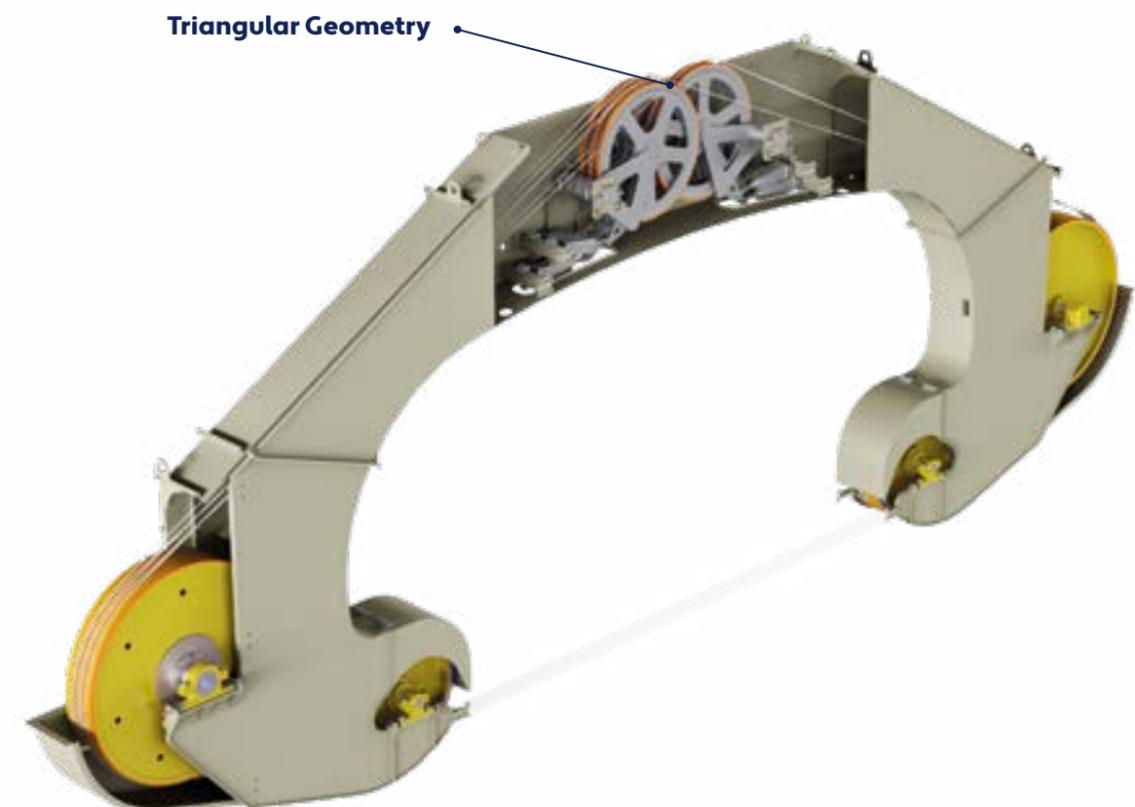
Triangular Geometry

Five Wire is a multiwire with the same concept as a mobile single wire, where the machine moves, allowing you to square blocks of different sizes and make cuts in various thicknesses.

One of the great advantages of the Hedel project is the cutting castle, which has a triangular geometry that defines the concept of economical multi-wire. This geometry makes the wires make less bends in the circuit, work close and supported on the driving wheels, generating less vibration and much more precision.

With the Delta system developed by Hedel, a significant increase was achieved in the durability of diamond wires, in the speed of cuts and in the quality of sawn slabs.

Triangular geometry defines the cost-effective multi-wire concept.



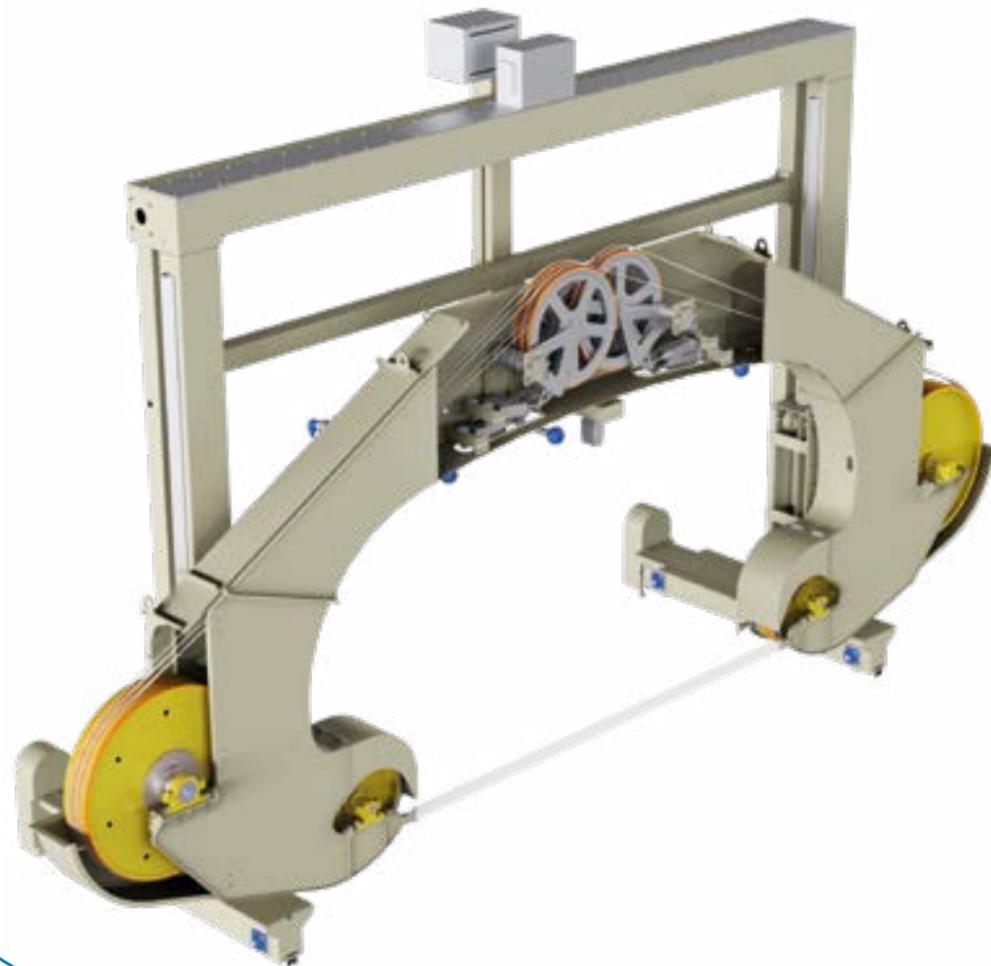
Traction set, moved set, guides and tensioning system

The **traction set** consists of a drum with a diameter of 1,260 mm driven by a motor.

The **moved set**, assembled on the opposite side of the traction set, consists of a set of individual wheels with a diameter of 1,260 mm with freedom of movement between them, important to compensate for the difference in length between the cables.

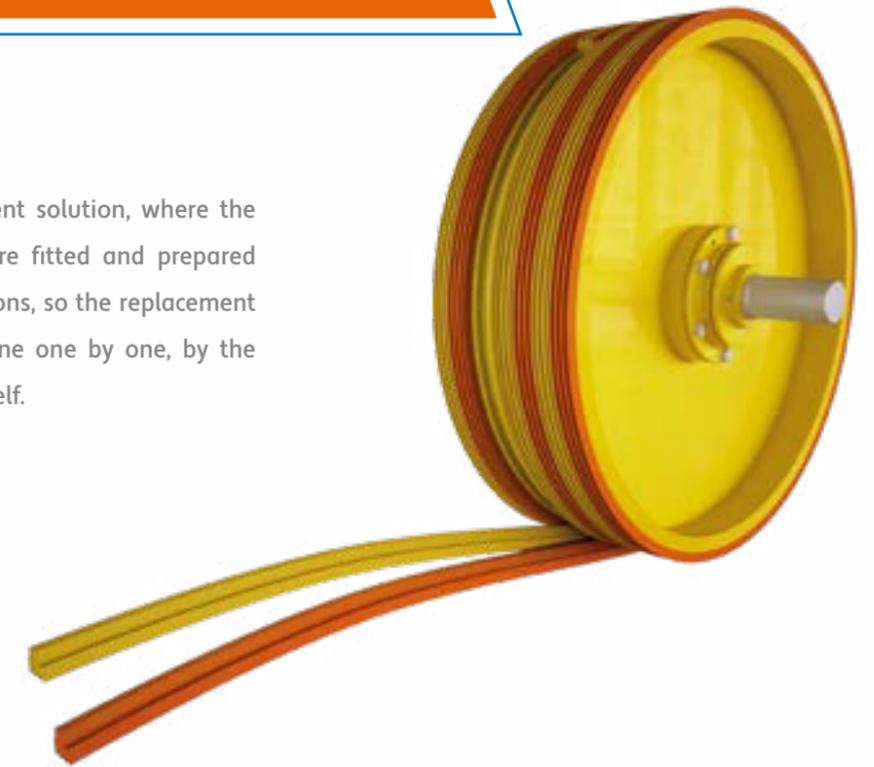
The cutting **guide rollers** are manufactured in a diameter of 780 mm, these rollers are close to the block and responsible for the precision of the cut.

The **tensioning wheels** have a diameter of 830 mm, assembled on an individual tensioning system, with special armored bearing wheels on robust stabilizing forks, driven by sensitive and precise pneumatic cylinders.



Rubber interchangeability

We developed an efficient solution, where the polyurethane profiles are fitted and prepared to resist the work rotations, so the replacement is quick and can be done one by one, by the multiwire operator himself.



Industrial electric board 4.0

The management and software control is really impressive due to the facility in which the parameters can be changed and the intuitive speed of the graphics in terms of logic in switching from one function to another.

The panel has a human-machine interface (HMI), with all commands, views and parameters available on a 10.4" touch-sensitive screen. In addition to being very easy to operate, the software allows programming to cut up to 3 blocks in sequence, in a simple way, the operator programs blocks A, B and C and the machine makes the cuts in the indicated positions.

Another great advantage is the electrical panel protection system, which was developed for use in external environments, so the Five Wire can be installed in open areas, including natural rock quarries.

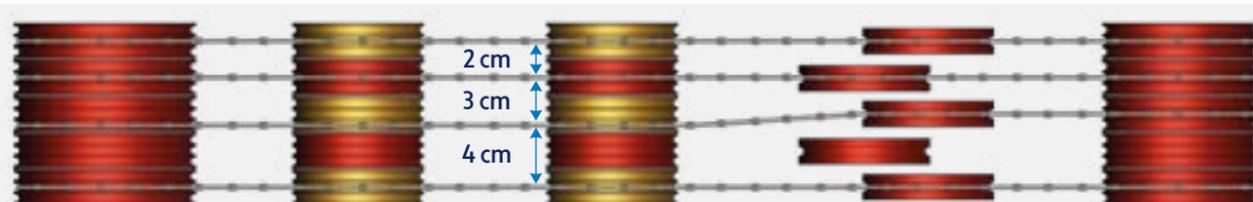


IOT SYSTEM: Developed in the industry 4.0 concept, through the cell phone it's possible to follow machine indicators in real time, from anywhere. Information such as: machine lifting, amperage, cutting time, time to complete the cutting and among other information.

Feeding information on the panel, the system informs the useful life of the wires, pearl wearing, provides the complete history, thus being able to create strategies to reduce costs, increase production and improve cutting.

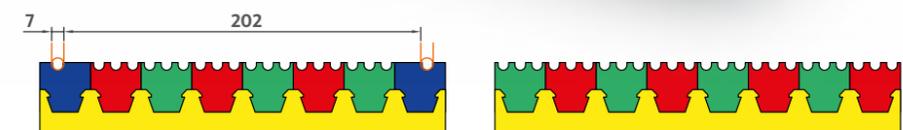
Thick cutting machine

Very rapidly it's possible to change the thickness to be cut. The solution is carried out through a series of wheels, on which there is a groove to run the diamond wires. To change the thickness to be cut, simply change the position of the wires in the grooves of the polyurethane profiles, which are multicolored, facilitating the alignment.



Technical data of the 05 moving wires.

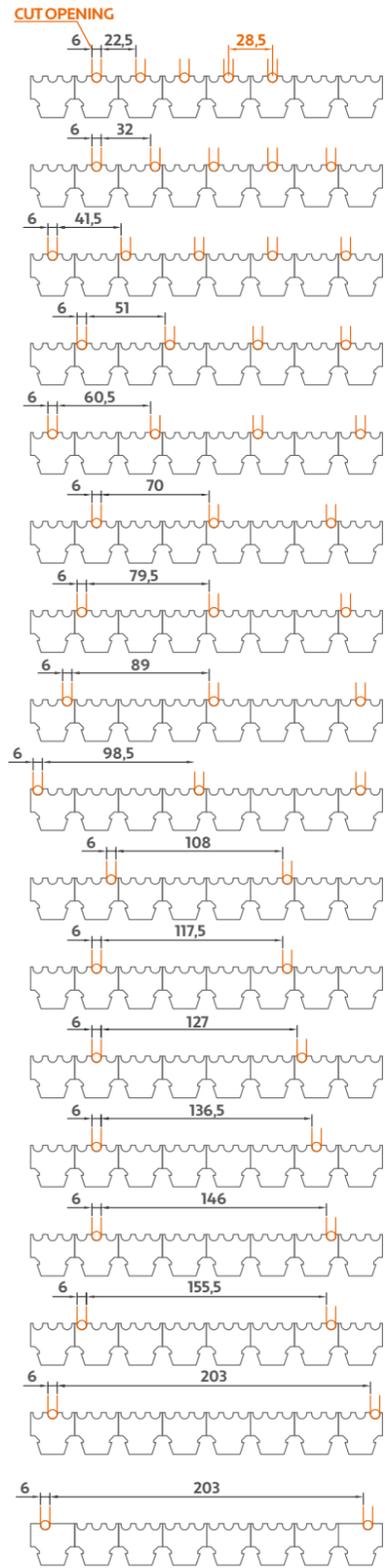
MODELO	UNIT OF MEASUREMENT	MH15V6 MOBILE	MH05+1V6 PLUS MOBILE
Cutting Width	Meters	3,5	3,5
Cutting height	Meters	2,3	2,3
2cm cuts	Cuts	5	6
3cm cuts	Cuts	5	6
Drum width	mm	228	342
Wire Tensioning	Kilos	215	215
Peripheral wire	m/s	25/38	23/35
Wire Length	Meters	20	20
Motor	CV	25	25
Power	KVA	39	39
Machine Length	Meters	2,8	2,9
Width	Meters	9,2	9,2
Height	Meters	7	7
Weight	Tons	11	11
Water	Liters per minute	75	90



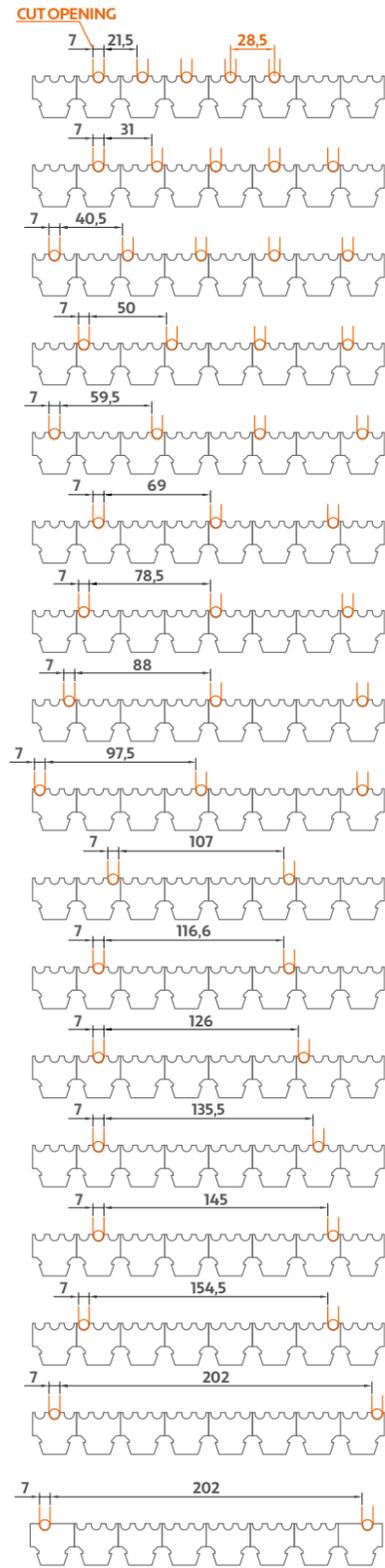
FIVE WIRE MH05

Standard division 28.5 mm

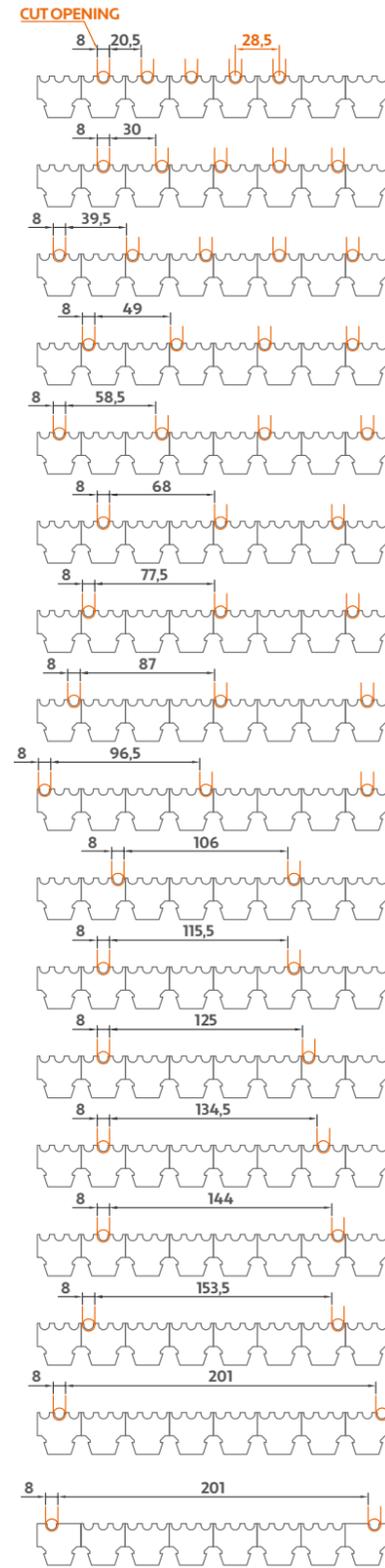
Slabs measurements using 5.3 mm wire



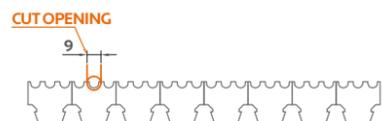
Slabs measurements using 6.3 mm wire



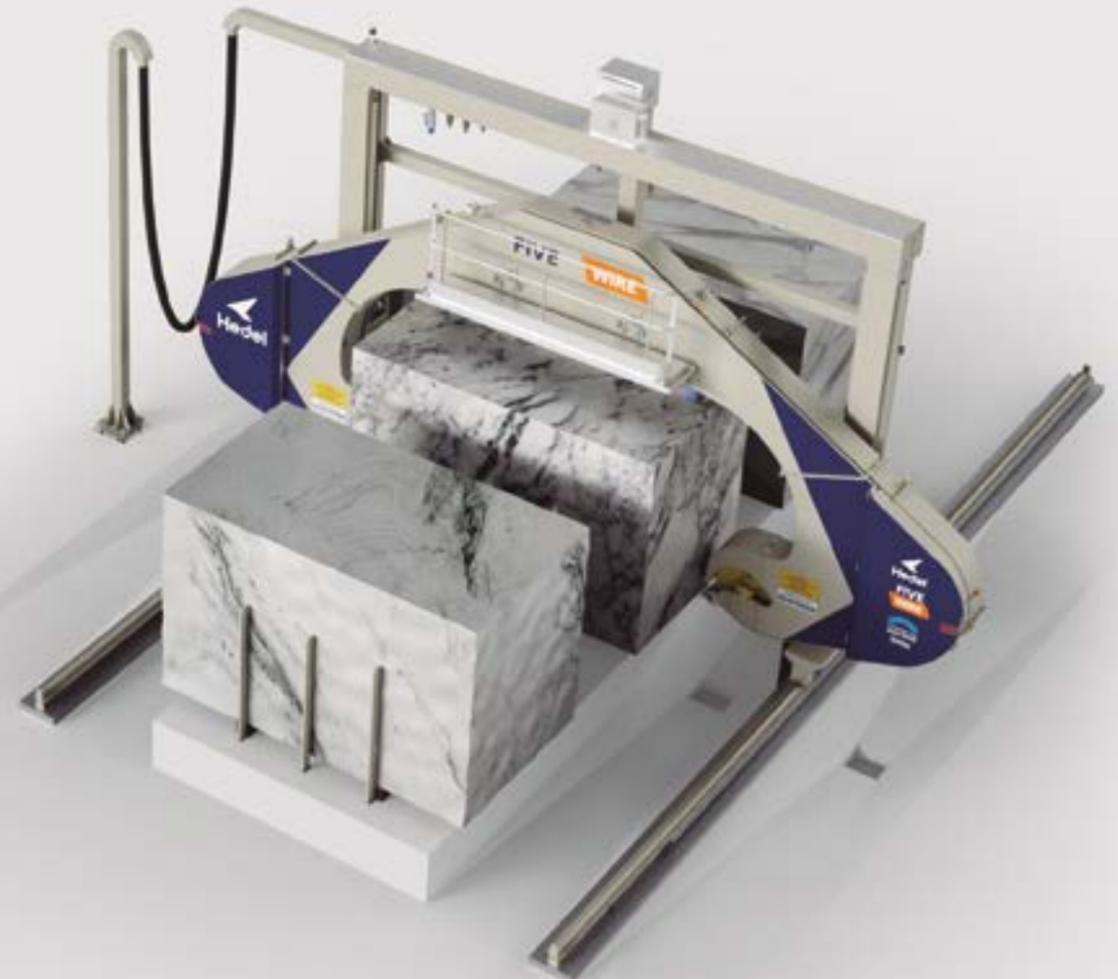
Slabs measurements using 7.3 mm wire



Standard 28.5 mm division using 8.3 mm wire



When using the 8.3 mm wire, the machine can work with only one wire, so the program allows cutting in any thickness. The operator simply gives the command to the electrical panel that makes the cuts to the desired thickness.





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