

BK2020 5+V Advantages

Relationship between the slab size and overall size of the machine
The first evident advantage is the ratio between working area and overall machine dimensions.

This machine with a working area of 4000mm x 2420mm occupies only 15.5 square meters, making it possible to fit two machines in the space of a traditional bridge saw.

Easy unload of parts from the table

The table has three sides that are always accessible to the operator, who can then unload parts more easily and more safely.

Increased rigidity of the machine

The guides of the bridge are anchored to the ground and thus provide a better rigidity to the whole machine.

Bridge resistance to twisting

5-axis bridge saws are exposed to always-changing twisting forces, because the blade cutting direction is not always parallel to the bridge.

The shorter bridge solidly anchored, not on wheels or rollers, has greatly improved twist resistance.

Improved Z axis rigidity

An improved motor tilting system combined with a correctly sized blade allowed us to lower the bridge and to shorten the Z slide.

The shorter Z frontally mounted on the bridge has increased rigidity but kept the same working height capacity.

Lower water consumption

The traditional cooling system expects huge quantity of water to cool 30% of the blade perimeter, or only the contact side, this cover (patent n° 3684608) keeps the blade submerged in water for 70% of the perimeter.

Cooling trough submersion needs less water and almost totally eliminate water splashes.

Rapid movements

The smaller size of the machine allows it to reach a point before compared to a larger machine.

Blade motor with vector technology

A vector motor and an induction motor have different performance. With the same consumption (kW) the vector motor has twice the torque (Nm).

Vector motor technology allows the motor to keep a constant torque up to 6000 rpm, instead with an induction motor, even if controlled by VFD, as the speed increases it loses torque, but the consumption increases.

Using vector motor technology allowed us to increase performance, and drastically reduce consumption and the dimensions of the blade motor.

Increased cutting depth

The motor and flange diameter of only 160mm allows cutting 100mm thick stone with a blade of only 360mm diameter.

With a traditional motor you would instead need a 450mm blade to cut the same thickness.

Better cutting performance

A small blade because it's thinner reduces sludge left from the cutting process, also because it's cutting less it can cut faster, and it leaves shorter overcuts.

Another advantage of a small blade is that it requires less water and less power to run.

Machine installation

Machine's mono-block structure allows installation in less than a full working day on a flat concrete floor, without needing to spend more to build walls or special foundations.

我们列举了传统桥切机和最新的BK2020之间的几个主要区别:

1-石板尺寸和机器总体尺寸的比例

我们首先解决的就是石板尺寸和机器总体尺寸不相称的问题。

BK2020的工作面积为4000mmX2420mm, 占地面积为15.5平方米, 而不是32平方米, 从而使得在一台传统桥切机的空间内放置两台BK2020成为可能。

2-从工作台取下石材更为方便

我们优化了从工作台卸载工件的过程, 工人在任何时候都可以贴近机器的三个面作业, 并能更方便和更安全地从工作台上清理废料。

3-机器的刚性不同

BK2020的横梁底座直接支撑在地面上, 整台机器的刚性

因此得到提升。

4-横梁的抗弯性

五轴桥切机在工作时承受着不同的弯曲应力, 因为锯片的切割方向一直在变化, 所受到的应力也就一直在变化。

我们把横梁做得更短, 从而让应力降到了最低。短的横梁显然比长的更难被弯曲。

5-Z轴刚性不同

我们优化了电机翻转系统以及锯片尺寸, 因而横梁高度可以做得更小, Z轴刚性提升而工作空间不变。显然, 如果锯片尺寸比较小, 而石材厚度也有限, Z轴就没有必要太长。

6-降低了水的消耗

我们申请了一个锯片罩板的专利, 这项设计改进了锯片

冷却系统而且可以节约水资源。

这项设计除了节约用水之外, 还能在全方位防止水的飞溅。

7-运动刚性

相较于尺寸较大的机器, 我们的机器从零点移动到工作台上任何一点所走过的路程以及所使用的时间都更短。

8-采用矢量技术的锯片电机

矢量电机的性能不同于异步电机。在相同的功率(千瓦)下, 矢量电机的扭矩(牛米)是异步电机的两倍。

矢量电动机在6000rpm的转速下可以保持扭矩恒定, 而异步电机, 就算是在VFD控制下, 转速提高时扭矩也会下降, 而且消耗也会增加。

使用矢量电机可以提升机器的性能, 大幅减小电量消耗, 以及减小锯片电机的尺寸。

9-切削深度不同

由于电机和法兰的尺寸只有160mm, 我们只需要使用直径360mm的锯片来切割100mm厚的石头。而传统电动机切割同样厚度的石头需要直径450mm的锯片。

10-切割性能不同

小的锯片厚度也更小, 切割更快, 切缝也更窄。这极大地提升了切削性能, 并减少了切割过程中产生的粉末。

11-机器的安装

由于BK2020是整体结构, 其装配更简单。一个工作日内就可以在一块平坦的水泥地上组装好一台机器, 而且不需要建造墙体一类的基座, 因此成本也更小。

8 Models 8 种型号

MACHINE	AXIS	WORKING AREA mm	TILTING TABLE mm	HEAD ROTATION °	HEAD TILT °	BLADE DIAMETER mm
机器	轴	工作尺寸 mm	翻升台面尺寸 mm	机头旋转°	锯片倾斜°	锯片直径 mm
BK2020 3+2	5 (3+2)	3500 X 1900	-	0-90-180-270	0-90	200-300 + 1/2"
BK2020 4+1	4 (4+1)	4000 X 2100	3400 x 2100	0-400	0-90	200-380 + 1/2"
BK2020 4+1+V*	4 (4+1)	4000 X 2420	3600 x 2420	0-400	0-90	200-380 + 1/2"
BK2020 5	5	4000 X 2100	3400 x 2100	0-400	0-90	200-380 + 1/2"
BK2020 5+V*	5	4000 X 2420	3600 x 2420	0-400	0-90	200-380 + 1/2"
BK2020 5B	5	4100 X 3000	3600 x 2420	0-400	0-90	350-625 + 1/2"
BK2020 5B+V*	5	4100 X 3000	3600 x 2420	0-400	0-90	350-625 + 1/2"
BK2020 S	5	4000 X 3000	optional	0-400	0-90	350-625 + 1/2"

* V: Machine with vacuum movement system

* V: 机器配置真空吸附挪移功能

DESIGN PATENTED
TOOL COOLING SYSTEM PATENTED
SOFTWARE PATENTED (COPYRIGHT®)

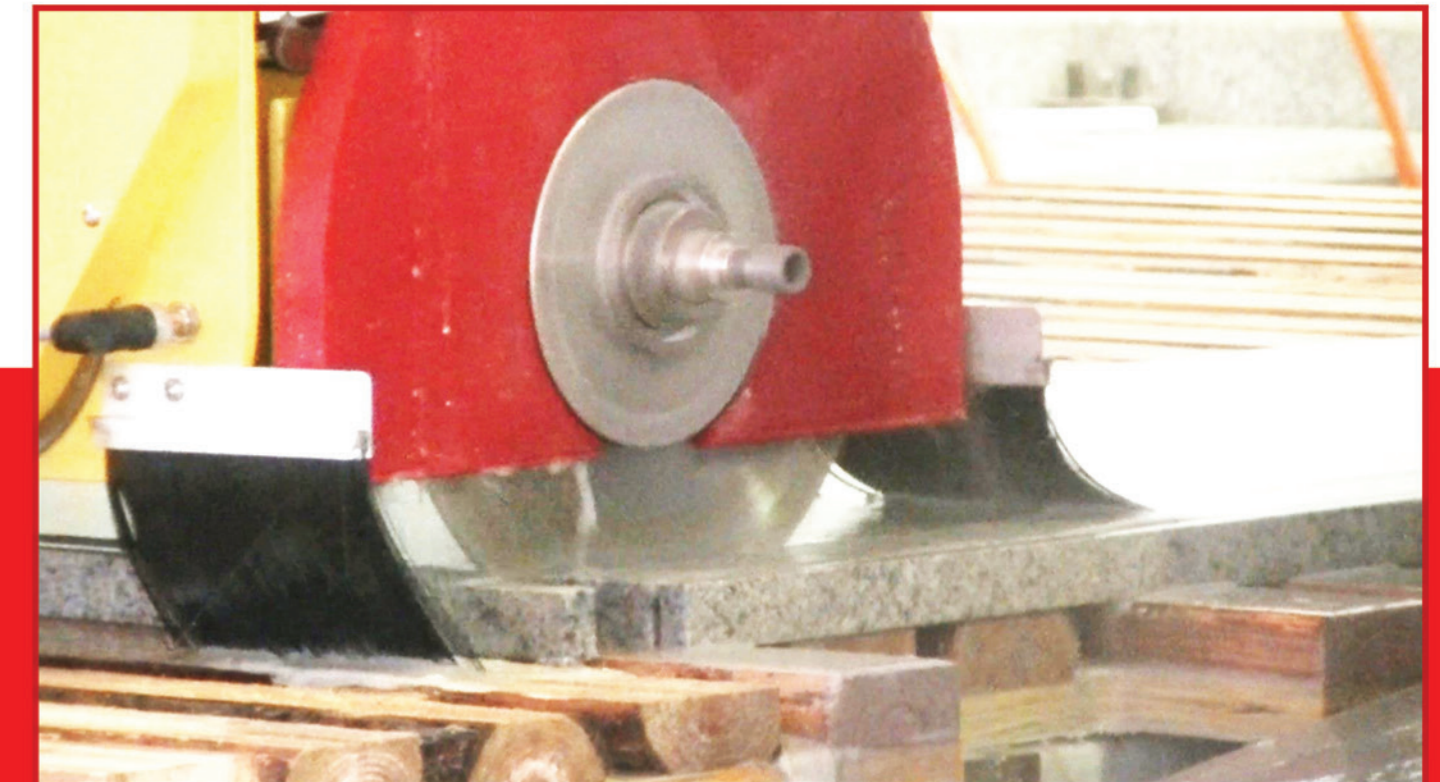
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BK2020⁵V

5 AXIS BRIDGE SAW

CNC五轴数控桥切机



THE PERFECT SYNTHESIS OF SPACE, FEATURES AND PERFORMANCE
Machine dimensions 5000x3100 mm, workable area 4000 x 2420 mm

这是空间、功能和性能完美结合。
机器外形尺寸5000x3100mm, 工作尺寸4000x2420mm



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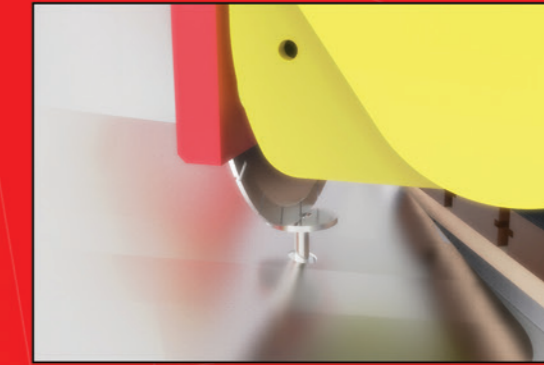
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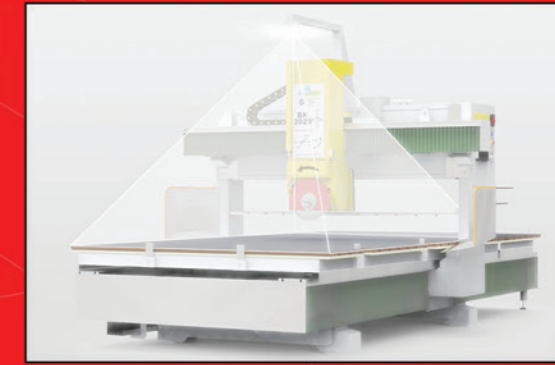
Portal gantry saw 龙门式大锯



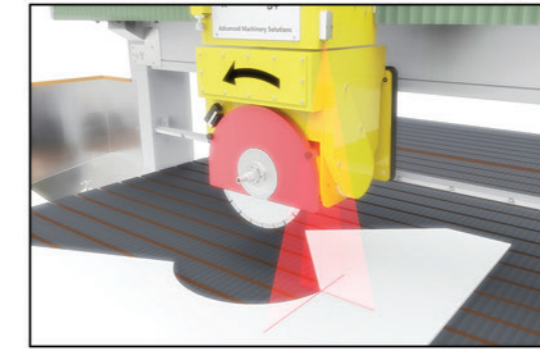
Remote control
手控盒



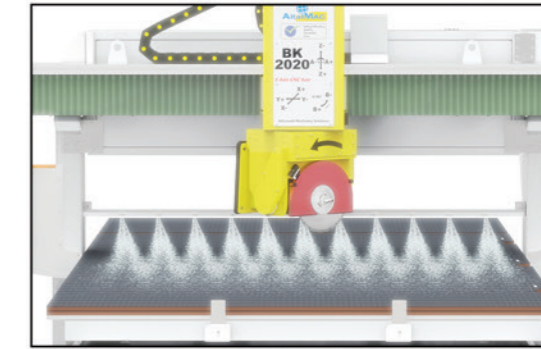
Tool presetting
锯片预设



Camera on board
随机移动的摄像头



DXF Laser templater
DXF的激光模板



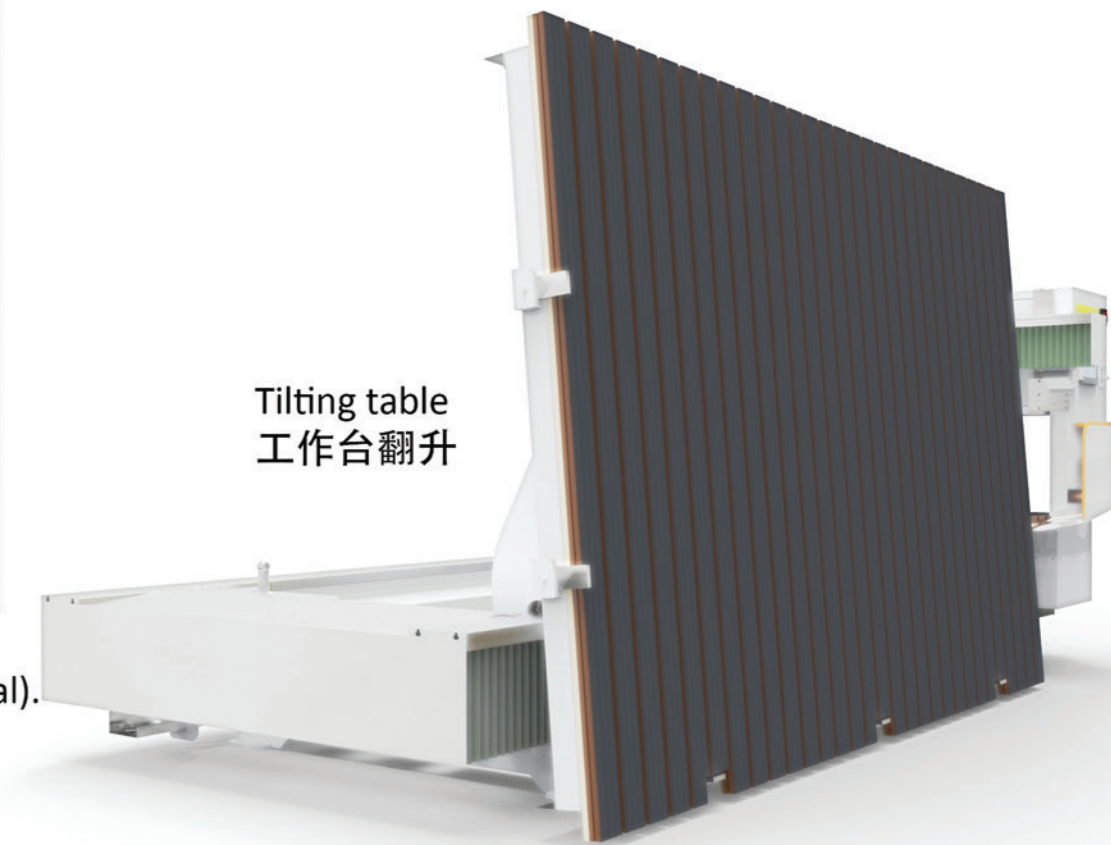
Slab washing system
大板清洗系统



Vacuum lifter to
move parts
真空吸附移动工件



Programming and
control station (optional).
固定的工作 (选配)



Tilting table
工作台翻升

该桥式切割机的优点:

- 可加工的石材尺寸和机器占地面积的比例
- 机器三面开放式操作
- 刚性
- 抗扭转横梁
- 节约用水
- 矢量主轴电机
- 卓越的切割性能
- 节能

THE ADVANTAGES OF THIS BRIDGE SAW

- Ratio of slab size and footprint of the machine
- 3 sides of the machine accessible
- Stiffness
- Resistance to twisting of the bridge
- Reduced consumption of water
- Blade motor with vector technology
- Cutting Performance
- Energy saving