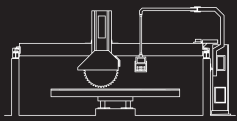


GMM
STONE MACHINERY

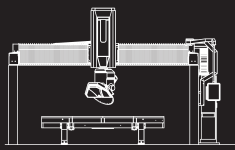
EXPERIENCE & QUALITY

Toro 拓乐

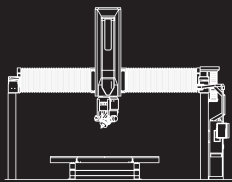
AUTOMATIC MULTISPINDLE POLISHING MACHINE FOR FLAT AND ROUND EDGES 自动直边圆边磨边机



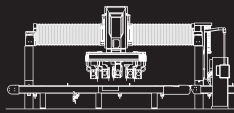
BRIDGE SAWING MACHINES



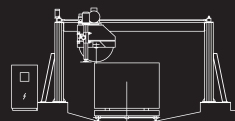
5-AXIS SAWING MACHINES



5-AXIS SHAPING MACHINES



CUTTING CENTER MACHINES



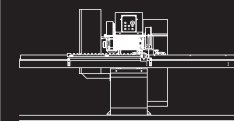
BLOCK CUTTER



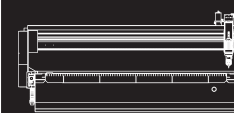
EDGE POLISHER 磨边机



CALIBRATING AND POLISHING MACHINES



LINES AND
COMPLEMENTARY MACHINERY



WATER JET



POWER & CONTROL



EXPERIENCE & QUALITY



TECHNOLOGY & INNOVATION





MAIN FEATURES 主要特性

Body

设备基座

Made in electro-welded structure, machined with cnc machinery. **Thermal treatment to unstress materials** due to welding. Surface for the belt is rectified and lined with a wear-resistant steel plate, which can be replaced.

Sandblasting and special treatment with zinc base and double component paints.

坚固耐用的设备基座首先经电焊接,然后由数控机床加工,再经过热处理,确保质量。传送带工作面经校正及盖上可更换的耐磨钢板,底座经喷砂、镀锌处理后,再涂上两层含两种环氧树脂成份的油漆。

Spindles

转轴

Same on all units. Cover for safety on all moving parts and a double labyrinth seal for better water and humidity resistance. 所有作业装置上的转轴的标准及规格完全一致。所有可移动部件均采用双密封处理,防水防潮。

Bevels

倒角头

They make the double bevel on the straight edge. They are mounted at 45°. The two first (up and down) have the possibility to use diamond tools and to reach a fix position driven by the computerized system to obtain the perfect required bevel. Their entry and exit on the material is programmable regardless of the work on the straight edge.

安装在45°倒角器,用于加工双斜面(在直边上)。首两个(上及下)可使用金刚石工具由计算机驱动固定位置,以获得完美斜面,无论直边上的工作如何,进入/退出都是可编程。

Calibrators, drip cut, multi-functional units

校准轴、切槽、多功能单元

Can be placed at the entry and exit of the machine. With various configurations, they allow to work with the axis in vertical position, inclined and horizontal. On these units we can install levigating heads, profiling tools, bush hammering unit, discs for cutting. In order to work properly, they have double speed motors.

校准轴、切槽、多功能单元可装在机械的进口/出口。可按照不同配置进行垂直、倾斜和水平作业,本设备可装备磨边倒角轴、仿形铣头、凿击打毛处理器等部件做切割工作。为使设备以合适的速度作业,设备安装了双倍速马达。

Oscillating bar

摇臂

Allows to perform and polish the chosen profile **using universal tools**. The bar, made in strong aluminium casting, is made to oscillate by means of a double reducer and lever moved by **two brushless motors**. The spindles which are governed by separate hydraulic motors **have various speeds** from 2200 rev/min to 1000 rev/min, starting from the universal diamond tool up to the last polishing grain.

The computerized system allows programming a **micro-oscillation ("swing")** on straight edges or on flat inclined profiles.

使用通用刀具进行成形、抛光作业。摇臂由强化铝铸件制成,配备双减速器,由两个无刷马达驱动。每个工作轴由独立的液压马达驱动,提供多种转速自2200转/分钟至1000转/分钟,来配合从开始的通用金刚石磨轮到最后的磨光轴的运转。通过计算机的系统,在加工直边或倾斜直边时编制微震荡定向器,保证抛光质量。

Electrical cabinet

电柜

In painted stainless steel positioned on the machine.

喷漆不锈钢制造,安装在机械上。

Programming

编制作业程序

With its 8" touch screen it is possible to do all the works necessary in a very simple and quick manner. By setting the profile and the thickness the machine positions all the heads automatically eliminating huge time wasting procedures, previously done manually. In less than a minute the machine can be changed from one work to another. It is possible to program each single head to optimize the entry on the piece to be worked or to execute partial work on bull-nose or flat profiles. It is possible to carry out analysis and statistics regarding the times and quantities produced, as well as processing quotes. Also it is possible to memorize all the parameters used to produce a certain piece and recall this data when necessary.

通过设备的 8 英寸触摸屏,可以非常简单、快捷地执行各项操作。在设置好所需产品的轮廓和厚度后,设备的所有工作头会自动就位,避免了过去通过手动操作所浪费的大量时间。可独立配置每个工作头的就位程序,以便执行局部加工圆边或直边。可以对生产时间、数量以及处理报价进行分析和统计。此外,还可以记住生产某个部件的所有参数,并在必要时调用该参数。

Protections

保护盖

The covers are all in heavy duty fiberglass on the front side of the machines and in stainless steel on all single units. All the spindles have pressure gauge and separate pressure regulation and be excluded or work in semi or fully automatic mode. Particular attention has been paid to the shape of the machine in order for it to be easy for normal maintenance work and change of tooling. 设备前端保护盖由重型玻璃纤维制成,各个工作头的保护盖由不锈钢制成。所有工作轴均配备独立的压力表和压力调节开关,可独立关闭或者配合其他工作头全自动、半自动工作。为了更方便地定期保养及更换切、磨工具,我们对设备的外形做了特别设计。



POWER & CONTROL



EXPERIENCE & QUALITY



TECHNOLOGY & INNOVATION

The Toro range of inline machines have been designed to work on all types of marble, granite, stone and agglomerates. These machines are versatile in order for them to work in small, medium or large size establishments in the building, design and monumental.

拓乐系列磨边机专门用于加工各种大理石、花岗石及人造石, 适合加工各类大、中、小型建筑构件或工艺件。

The shaping of the rounded profiles is carried out with universal tools, completely eliminating the use of expensive shaped grinding wheels.

使用通用刀具切圆边, 避免使用昂贵的磨削成形轮。

Easy to use, these machines can be made to meet all types of needs both in the small and large industry.

该系列设备拥有多种规格尺寸, 可以满足各种规模的生产车间使用。

A new generation of TORO includes a friendly use horizontal inline automatic multi-spindle machines, driven by computerized electronic controls over a precise building mechanics, result of tested, appreciated and unequalled Gmm experience.

新一代拓乐磨边机是一种易于操作的水平内嵌式自动多磨轴机床, 由电子计算机控制的精确机械。深受赞赏和好评。



TECHNOLOGY & INNOVATION



EXPERIENCE & QUALITY



POWER & CONTROL

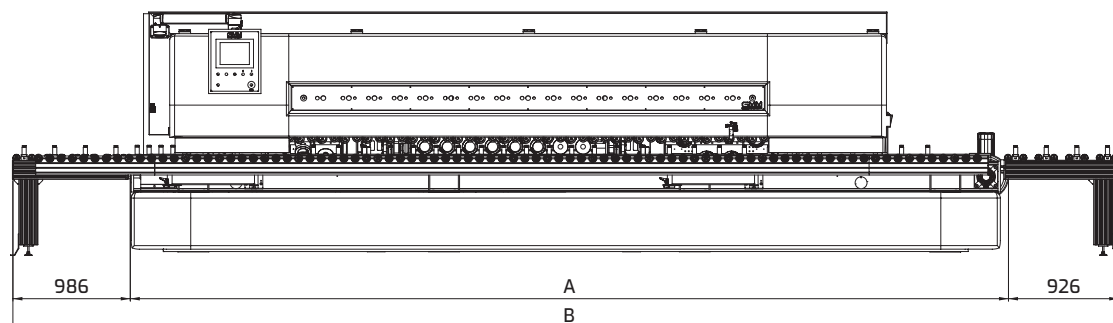


Toro 拓乐

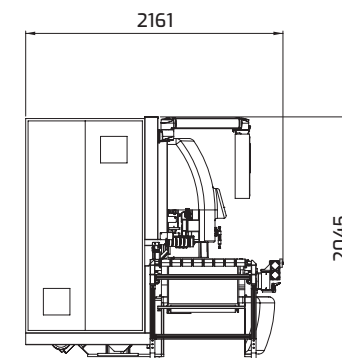
TECHNICAL DATA 技术参数

	Toro 260	Toro 262	Toro 264	Toro 282(4)		Toro 260	Toro 262	Toro 264	Toro 282(4)
BULL NOSE SPINDLES 圆边磨轴	6	6	6	8	PRECUT / BEVEL SPINDLES 预切 / 倒角轴	2	2	2	2
OSCILLATING BAR HYDRAULIC MOTOR POWER 摇臂液压电机功率	15 kw	15 kw	15 kw	22 kw	STANDARD BEVELS 标准倒角轴	-	2	4	2(4)
OSCILLATING BAR ANGLE 摇臂角度	+/-82°	+/-82°	+/-82°	+/-82°	SEPARATED DRIP CUT (OPTIONAL) 独立切槽 (选项)	-	1	1	1
OSCILLATION SPINDLES BAR TYPE 摇臂主轴类别	syncro dual drive 同步双驱动	syncro dual drive 同步双驱动	syncro dual drive 同步双驱动	syncro dual drive 同步双驱动	MULTIFUNCTIONAL UNIT (OPTIONAL) 多功能单元 (选项)	-	1	1	1
CALIBRATING/DRIP CUT 校准/拉槽	1 unit mech 机械轴	1 unit mech 机械轴	1 unit mech 机械轴	1 unit mech 机械轴	CONVEYOR SPEED 输送速度	0.2-2.0 m/min	0.2-2.0 m/min	0.2-2.0 m/min	0.2-2.0 m/min
WORKING THICKNESS MIN/MAX 最小/最大工作厚度	10-100 mm	10-100 mm	10-100 mm	10-100 mm	TYPICAL WORKING SPEED (BULL NOSE - FLAT EDGE) 一般工作速度 (圆边-直边)	25-70 cm/min	25-80 cm/min	25-100 cm/min	40-120 cm/min
MIN WORKING WIDTH 最小工作宽度	150 mm 120 mm *	150 mm 120 mm *	150 mm 120 mm *	150 mm 120 mm *	TYPICAL GRINDING WHEELS DIAMETER 一般砂轮直径	130 - 150 mm	130 - 150 mm	130 - 150 mm	130 - 150 mm
APPROXIMATE WEIGHT 设备重量	4500 kg	5300 kg	6000 kg	7000 kg					

* Flat edge 直边



	Toro 260-262	Toro 264	Toro 282	Toro 284
A mm	5880	6300	6800	7380
B mm	7800	8220	8720	9300





POWER & CONTROL



EXPERIENCE & QUALITY



TECHNOLOGY & INNOVATION

TORO ~ THE RIGHT CHOICE REASONS 拓乐 ~ 您的最佳之选

AUTOMATIC

自动化

Profile center, Pressing bar, Calibrator, Precuts, First shaping heads, Diamond bevelling units, automatically move to the right position.

自动就位设定: 仿形轮, 压架, 厚度校正, 预切, 初成形磨头, 金刚石倒角器。

ELECTRONIC + MECHANICAL SOLUTIONS

电子 + 机械化控制

Oscillating bar driven by two electronic interconnected motors with simplified mechanical.

摇臂由两个相连的精简机械电机驱动。

LONG LIFE SPINDLES

耐用磨轴

High quality for spindles in special stainless steel and with inside air pressure to improve waterproofing.

高质量的磨轴由特制不锈钢制成, 内部气压提高防水效能。

EASY SET UP AND FLEXIBILITY

简易设定和灵活使用

Fully electronic computerized platform with friendly operator interface. Software developed in GMM.

全电子化计算机平台, 简易操作界面。软件均由GMM开发。

BETTER FINISH AND HIGH EFFICIENCY

更好地完成高效率加工

Spindles driven by hydraulic motors, rotates at different speed (from 2200 to 1000 r.p.m.) from diamond tool to the last polishing abrasives.

每个工作轴由液压马达驱动, 多种转速自 2200转/分钟 至 1000转/分钟, 来配合运转从金刚石磨轮到最后的磨光轴。

DETAILS WHICH MAKE THE DIFFERENCE

精心制作

A normalizing heating treatment is done on machine body, shoulders and supports, to increase and maintain, through the time, the precision of working.

设备基座和支承架, 均经过热处理, 以提高加工精度和保证机械寿命。

EVERYTHING UNDER CONTROL

一切尽在掌握

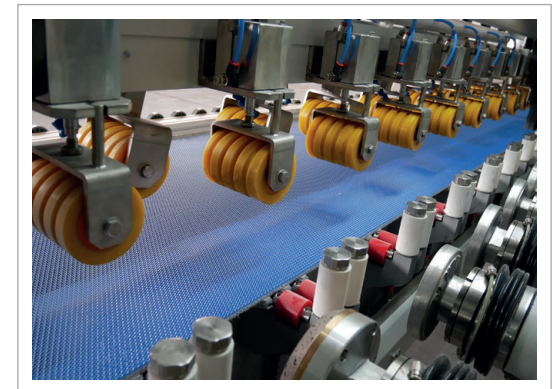
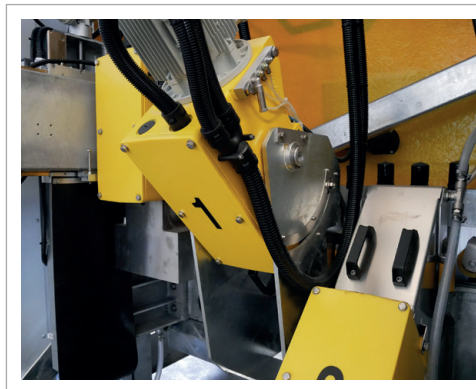
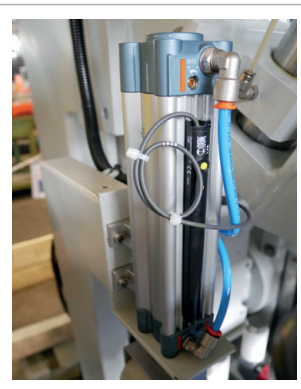
The TORO have not only a very friendly control system. It is possible to memorize many data and information like working times, statistics, alarm history, recipes of previous particular profiles ...

拓乐不单是一台非常简易操控的设备, 它还能记录存储许多数据和信息, 例如工作时间、统计、报警历史、之前的仿形资料...

SURFACE PROTECTION AGAINST RUST

表面的防锈

All the surface treatments are made inside GMM: starting from sandblasting, cold-galvanized treatment, to the final painting. 所有的表面处理, 从喷砂、冷镀锌处理、上油漆均由GMM制作。



TECHNOLOGY & INNOVATION



EXPERIENCE & QUALITY



POWER & CONTROL



Toro 拓乐

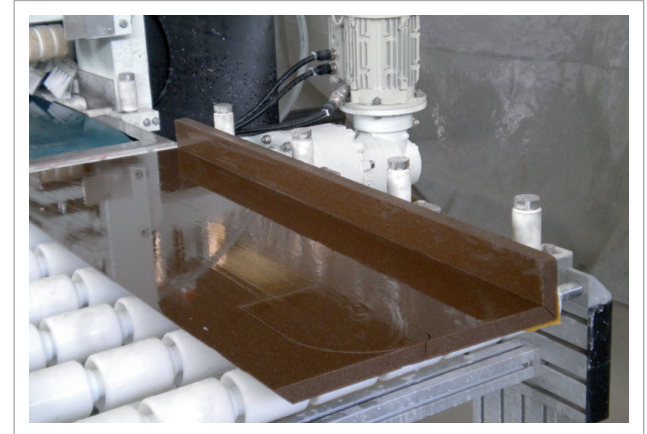
Hot galvanized body (option)
热浸镀锌机身 (选项)



Twin group
侧面磨组

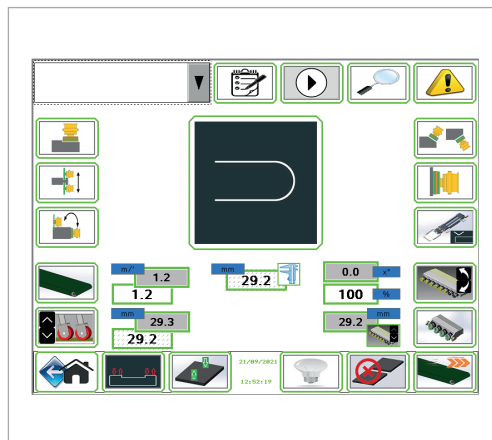


"V" groove, double 45° cut
"V" 形槽, 双重45°切

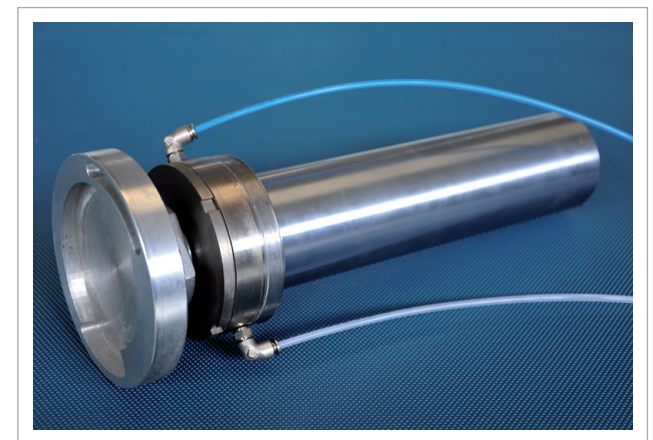




Easy programming
简易编程



Spindle with internal pressurization
主轴有内部加压



Sandblasting
喷砂



TECHNOLOGY & INNOVATION



EXPERIENCE & QUALITY



POWER & CONTROL



Toro 拓乐

PROFILES 仿形

FLAT EDGE
直边



BEVELLING
斜边



ROUGHING
斜面切割



BULL-NOSE
圆边



HALF BULL-NOSE
1/2 圆边



ROUND CHAMFER
弧形倒角



WATERFALL
大圆边



MIDDLE PROFILE
过渡边



CALIBRATING
定厚



WATER DRIP UP/DOWN
上部/下部 滴水槽



BUSH HAMMERING
凿击打毛



DOUBLE CUT
二道槽



MULTIPLE CUT
多道槽



FRONTAL CUT
前端抽槽



ROUGH MOULDING EX. 1
成形轮铣削(例子1)



ROUGH MOULDING EX. 2
成形轮铣削(例子2)



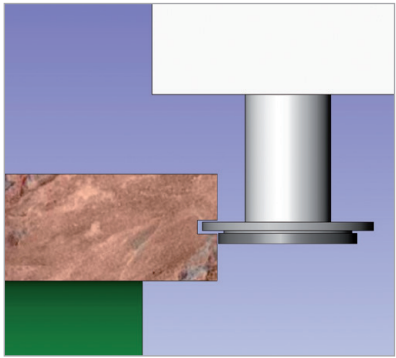
PARTIAL WORK ON BULL-NOSE PROFILE
棋子边分段加工



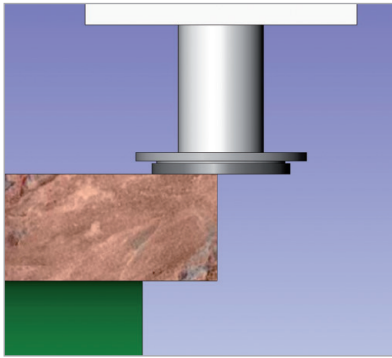


OPTIONS 选项

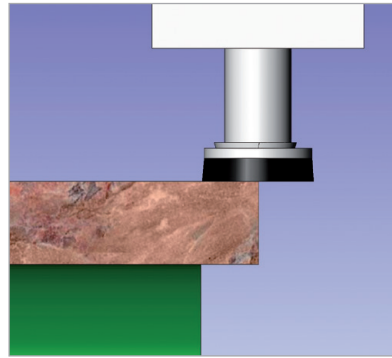
TILTING (0°-90°) PNEUMATIC CALIBRATOR IN ENTRANCE
入口处可倾斜定厚台 (0-90°)
1500/3000 rpm, 4 kW



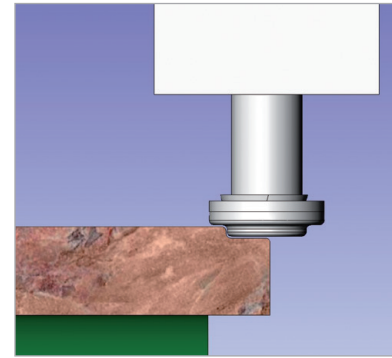
FRONTAL CUT
前端切割



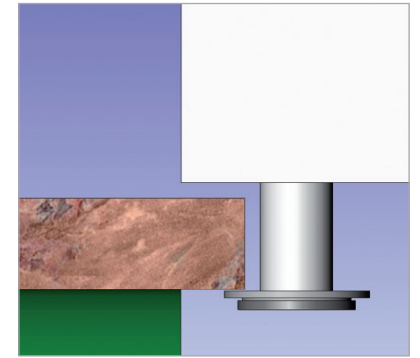
UPPER CALIBRATION
上部定厚



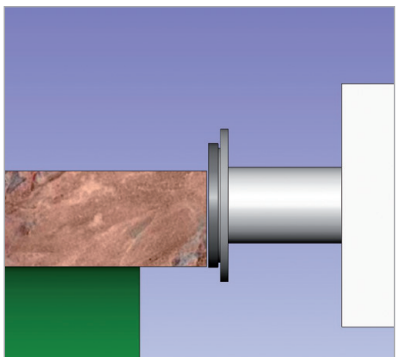
UPPER HONING
上部抛光



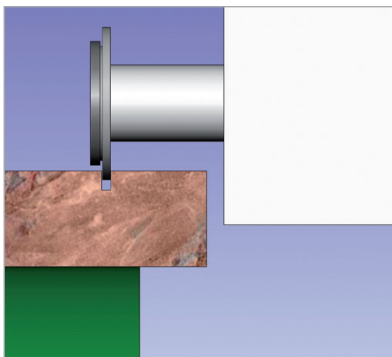
ROUGH SHAPING
粗成形



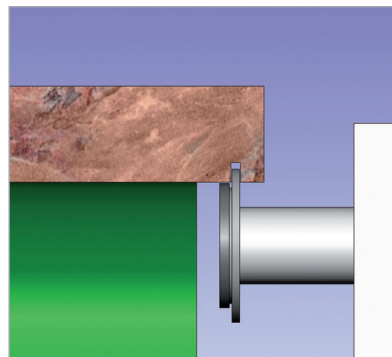
LOWER CALIBRATION
底部定厚



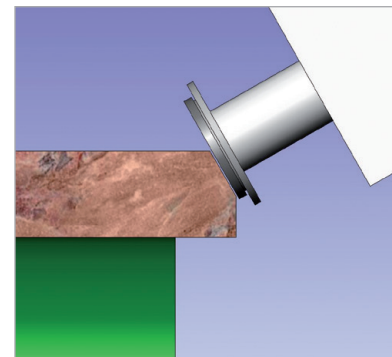
FRONTAL CALIBRATION
前部定厚



UPPER WATER DRIP CUT (THROUGH CUT)
上部加工滴水槽 (从头至尾)



LOWER DRIP CUT (THROUGH CUT)
下部加工滴水槽 (从头至尾)



INCLINED CUT
倾斜加工

TECHNOLOGY & INNOVATION



EXPERIENCE & QUALITY



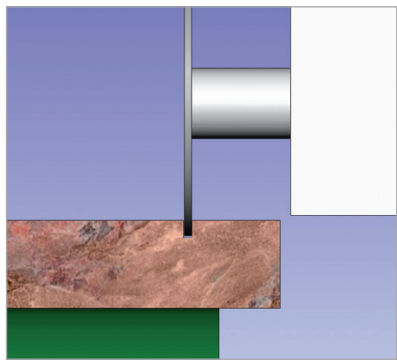
POWER & CONTROL



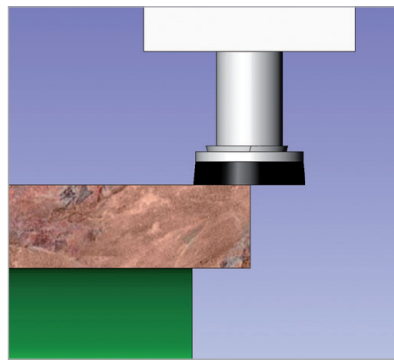
Toro 拓乐

MULTIFUNCTION 多功能主轴单元

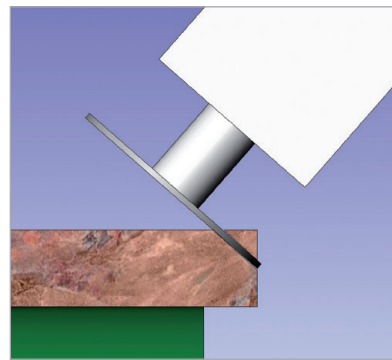
1500/3000 rpm, 4 kW



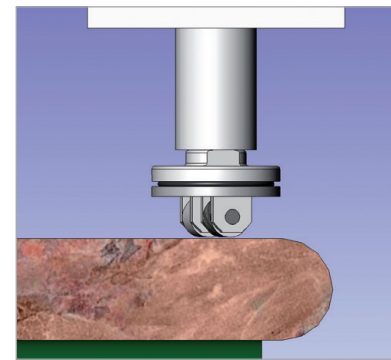
UPPER THROUGH DRIP CUT
上部加工滴水槽 (从头至尾)



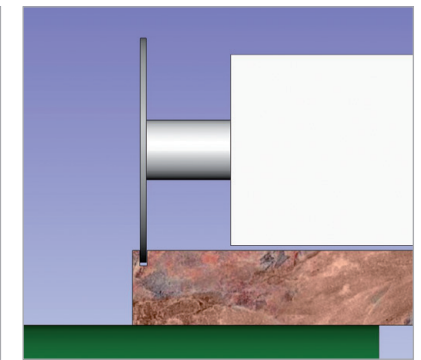
UPPER HONING
上部抛光



INCLINED CUT
倾斜加工



ANTISLIPING BUSH HAMMERING
(PROGRAMMABLE)
防滑面凿击打毛(可编程)



UPPER PROGRAMMABLE CUT
(MAX 600 mm FROM THE EDGE)
上部可编程抽槽
(到边尺寸最大 600毫米)



GMM

STONE MACHINERY



GMM S.P.A.
HEADQUARTER 意大利总部
ITALY
www.gmm.it

GMM S.P.A. SCHIO
BUSINESS UNIT
ITALY
www.gmm.it

GMM USA INC.
COMMERCIAL / AFTER SALES UNIT
USA
www.gmm.it

GMM STEINBEARBEITUNGSMASCHINEN GMBH
COMMERCIAL / AFTER SALES UNIT
GERMANY
www.gmm-steinbearbeitung.de

BAVELLONI SPA
HEAD OFFICE / PRODUCTION UNIT
ITALY
www.bavelloni.com

BAVELLONI SPA
TOOLS DIVISION / PRODUCTION UNIT
ITALY
www.bavelloni.com

BAVELLONI AMERICA INC.
COMMERCIAL / AFTER SALES UNIT
USA
www.bavelloni.com

BAVELLONI DO BRASIL
COMERCIO DE MAQUINAS LTDA
COMMERCIAL / AFTER SALES UNIT
BRAZIL
www.bavelloni.com

Z.BAVELLONI MÉXICO S.A. DE C.V.
COMMERCIAL / AFTER SALES UNIT
MEXICO
www.bavelloni.com

TECHNI WATERJET LTD.
MELBOURNE HEAD OFFICE
AUSTRALIA
www.techniwaterjet.com

TECHNI WATERJET LTD.
PRODUCTION UNIT
THAILAND
www.techniwaterjet.com

TECHNI WATERJET LLC
COMMERCIAL / AFTER SALES UNIT
USA
www.techniwaterjet.com

WPA WATERJET
PRODUCTION ACADEMY GMBH
DISTRIBUTOR
GERMANY
www.wpa-gmbh.com

GMM INTERNATIONAL LTD.
凌意国际有限公司
COMMERCIAL / AFTER SALES UNIT
HONG KONG 香港
香港九龙大有街34号新科技广场17楼17室
Tel. +852 2366 6386, Fax:+852 2367 0525
info@gmm.com.hk
www.gmmchina.cn

GMM (QUANZHOU) LTD.
泉州意美美机械有限公司
COMMERCIAL / AFTER SALES UNIT
CHINA 中国
福建南安市海联创业园海西石材城
大理石精品市场二期分区商铺3C-1
邮编:362342
Tel. +86 595 8609 7072, +86 134 3050 4901
info@gmmchina.cn
www.gmmchina.cn

MECTOCE S.R.L.
PRODUCTION UNIT
ITALY
www.mectoce.it

Toro 拓乐



EDGE POLISHER 磨边机
Tower | Costa

Technical data are not binding and may be changed by GMM without prior notice.
技术参数不具有约束力, GMM可能会更改, 恕不另行通知。

IMPORTANT: machines displayed in the present catalogue are without safety barriers in order to ensure the perfect vision of all the details of the machine. All machines will be delivered and installed with safety barriers as per current legislation. The data in the present catalogue may vary without notice due to continuous update of technology.

重要说明: 本说明书为了更清晰地展现设备全貌, 在拍照时撤除了安全保护屏障, 设备在实际交付与安装时都会配备安装保护屏。本产品说明书中的所有参数可能因更新原因而有所不同, 请按照当时咨询时为准。

ISO 9001
BUREAU VERITAS
Certification



Member of:
CONFINDUSTRIA MARMOMACCHINE
ASSOCIATA MACCHINE



ISO 9001:2015 - Certificato N°IT234871