

The **Green** Series

PE-TRA[®]

Double Column Band Saw Machines

Innovative solutions
for accurate and effective metal cutting
with lowest energy consumption and lowest Cost-per-Cut

www.pe-tra.com

PETRA's Green Mission

While the world is moving towards a potential ecological disaster, due to the green-house effect, we at PE-TRA accepted the challenge to make our machines greener and more environmentally friendly. PE-TRA Stroji d.o.o, of Ljubljana, Slovenia, a Double column Band saw machine manufacturer, is continuously working towards a greener technology, and is actively integrating it with both the existing, and upcoming ranges of Band saw machines.

Green Hydraulic Power Pack:

The single most important step which we took towards a greener machine, was to design a new hydraulic system which cuts the energy requirement to just one tenth of the energy used by conventional hydraulics. Our engineers designed the system in such a way, that the hydraulic system is only "ON" during 'Indexing cycle'. This comprises only 10 seconds, and may be just 10% (maximum) of the total cutting cycle, so the system remains "OFF" during the whole cutting cycle. Therefore no energy is consumed during some 90% of the cutting cycle.

The impact of an energy conservation approach is also reflected in the hydraulic oil temperature, as this new technology keeps oil always at the surrounding temperature even during a 24x7 work schedule. There is thus no loss of energy. It also helps to keep the oil quality intact, and in practical terms there is no need to change the oil for years. This new hydraulic power pack circuit also dramatically reduces the oil tank capacity, to just 8 litres, while conventional designs use 80 to 100 litre tanks. As a result, less oil is used and that, too, for longer periods – which is again good for Mother Nature. PE-TRA engineers have even taken care of minute losses too, (which used to occur in the tubings of conventional hydraulic systems), by rerouting the oil tube paths and selecting the proper hoses to reduce the oil drag to minimum.

Highly Efficient Power transmission:

PE-TRA has also re-engineered the power transmission system, by using a high efficiency helical gear box, integrated with an AC variable frequency drive, making it the most energy-efficient cutting machine in the 300 mm capacity. In practical terms, it draws less power during high speed cutting than the conventional power transmission system of a metal cutting machine.

Innovative chip removal system:

A major step toward a cleaner environment is the chip removal system, which has been designed to produce dry chips, thus keeping the synthetic coolant inside the machine. We now recommend that our customers use a synthetic coolant, which does not need frequent replenishment and hence is beneficial to the environment. In the whole cutting process, over the period of operation, water from the coolant may evaporate, meaning that water needs to be added, to maintain the concentration of synthetic coolant at the necessary level.

Environmental friendly manufacturing processes:

We also adopted a green approach in the manufacturing and assembly process, by selecting specific cold drawn materials, which do not need major machining, here again saving precious energy.

PE-TRA Machines is also contributing indirectly to the creation of a greener environment, by powder coating all machine components and not using spray painting at all, thus keeping the surrounding environment clean.

Last but not least:

A major contribution by PE-TRA towards its Green Mission is overall lowest Cost-per-Cut achieved by excellent Blade life. PE-TRA machine's basic design also assures minimal operational cost.

POWER

DC300 CNC

High speed Automatic Bandsaw



Technical Specifications Model POWER DC300 CNC

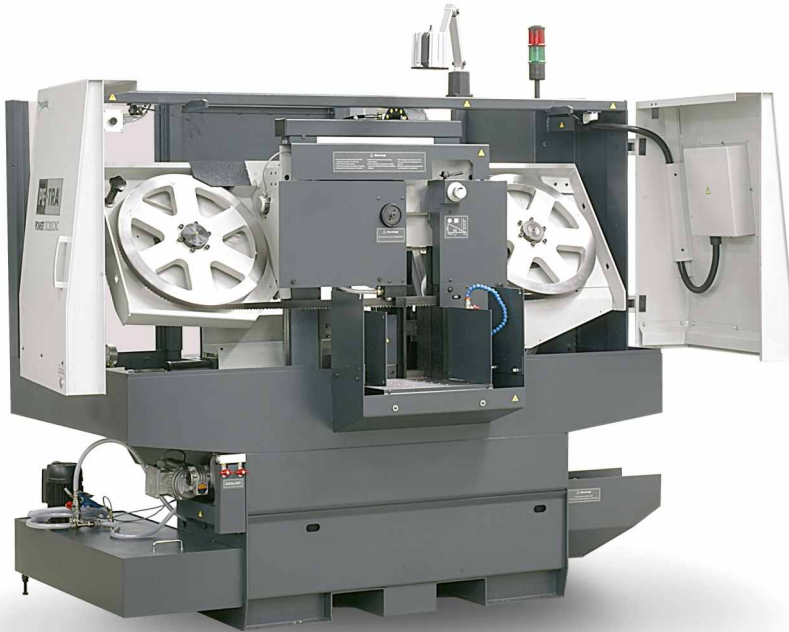
Cutting Capacity Round/Square.....	300 / 300 x 300 mm
Drive and Inverter	4 kW / 5,5 kW inverter
Gear Box.....	Helical
Band Wheel Diameter.....	500 mm
Infinitely variable blade speed.....	18 - 120 m/min
System controls.....	Siemens S7-1200 PLC
Touch screen.....	6" colour Touch screen
Feed stroke.....	400 mm with Multi indexing
Length setting.....	Through Touch screen (10 batch program)
Blade Size.....	4150 x 34 x 1,1 mm
Size L x W x H.....	2100 x 2000 x 2000 mm
Net Weight.....	1700 kg

POWER

DC300 CNC

High speed Automatic Bandsaw

DC300A Power CNC is a high performance, 24 x 7, fully automatic band saw machine. Machine can be programmed for 10 batches through touch screen. Most important, it is designed and built for **high speed cutting with Carbide blades**.

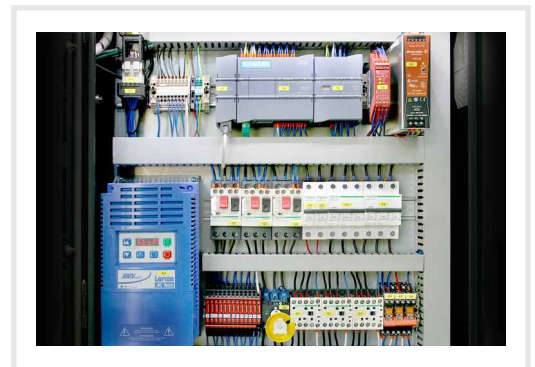


An ergonomically placed control console with 6" color Touch screen display. Touch screen menu is simple to operate and allows programming of length setting for 10 batches. It also displays the real time blade speed, cutting time, machine hour counter, blade life counter, alarms with diagnostics help. Chip conveyor operation cycle menu is inbuilt.

Engineered at its best, this compact and user friendly band saw machine with its sheer Power performs just on your finger touch. Built on PETRA's proven platform of Ball Rail System on both columns, machine offers motorised left arm as standard and integrated vertical clamping system as option.

Rich HMI offers digital cut length setting and real time information such as cutting rate, downfeed, cutting history, etc.

POWER CNC band saw machine is designed to perform at its best with Carbide blades.



Clear layout and orderly marked wiring, facilitates user friendly servicing. Makes of Servo drive, Controls and Inverter are the world best and known for their quality and reliability.



Bundle Cutting System (optional)



A heavy duty gear box guarantees efficient power transmission, ensures enough power to facilitate cutting by Carbide tip blade, at higher speeds and feeds.

CutMaster

DC300A - DC420A

Automatic Bandsaw

CutMaster is engineered with high-volume, automated metal cutting task in mind. It is a True Dual Column, automatic, heavy duty production band saw, based on PE-TRA patented dual column design.



Ergonomically designed control console with 4" Touch screen display. Touch screen displays the Blade speed, cutting time, machine hour counter, blade life counter, alarms with diagnostics help. Chip conveyor operation cycle menu is inbuilt.



Integrated, maintenance free hydro-mechanical Load-Feed control system limits the cutting force and regulates the feed within set range.

Innovative solutions for accurate and efficient cutting with a patented guide system and ball rails, ensures precise guidance and excellent rigidity on compact double column construction. A machine in cabin, ensures safety as well as neat and clean work area. Composite bed of CutMaster with smallest footprint in this category and integrated with electrical and hydraulic installation at easily accessible and safe locations.

Technical Specifications	Model DC300A	Model DC420A
Cutting Capacity Round/Square.....	300 / 300 x 300 mm.....	420 / 420 x 420 mm
Drive and Inverter.....	3 kW.....	4 kW / 5,5 kW inverter
Gear Box.....	Helical.....	Helical
Band Wheel Diameter.....	500 mm.....	500 mm
Infinitely variable blade speed.....	20 - 120 m/min.....	20 - 120 m/min
System controls.....	Siemens S7-1200 PLC.....	Siemens S7-1200 PLC
Feed stroke.....	400 mm.....	up to 2000 mm
Blade Size.....	4150 x 34 x 1,1 mm.....	4975 x 34 x 1,1 mm
Size L x W x H.....	1100 x 2100 x 1850 mm.....	2400 x 2000 x 1850 mm
Net Weight.....	1500 kg.....	2300 kg



Bar feeding vice integrated with a shuttle system. This innovative design allows operator to regulate the clamping pressure, enables it to clamp jobs such as small diameter bars, thin sections to big size bars without any problem.

ToolMaster

DC420VA

Semi-Automatic Bandsaw with Variable Blade Approach Angle

ToolMaster DC420VA is designed to offer more flexibility to Toolmakers, Steel traders or in general engineering workshops, where variety of jobs need to be cut, ranging from solid rounds or squares, plates, hex to tubes, angles, I-beams, etc.



A unique and innovative concept in band saw machine technology, this bandsaw offers flexibility to cut solids and sections with equal ease.

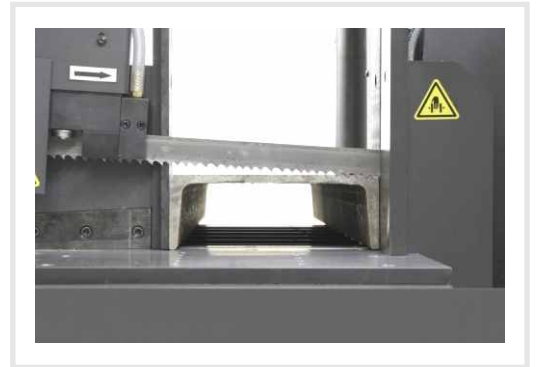
To achieve best results, DC420VA has three options to:

- set the Blade approach angle to 0 degree.
Any solid round/square can be cut in a conventional way.
- set the Blade approach angle up to 3,5 degree. Recommended for cutting sections .
- set machine to Oscillating Blade Approach cycle. Recommended when cutting difficult to cut material in full capacity. In this cycle, at any point in time, full width of the job never comes in contact with the blade resulting in higher feeds, improved cutting time and better blade life.

PE-TRA's innovation enables 420 mm capacity machine to use a blade width of 34 mm, making blade cost considerably less than the conventional machines which in turn results in lower Cost-per-Cut.

Technical Specifications Model DC420VA

Cutting Capacity Round/Square.....	420 / 420 x 420 mm
Drive and Inverter.....	4 kW / 5,5 kW inverter
Gear Box.....	Helical
Band Wheel Diameter.....	500 mm
Infinitely variable blade speed.....	20 - 120 m/min
Blade Attack angle.....	0° / 3,5 °
System Controls.....	Siemens S7-1200
Blade Size.....	4975 x 34 x 1,1 mm
Size L x W x H.....	2400 x 2000 x 1850 mm
Net Weight.....	1700 kg



Cutting of thin walled horizontal hollow section (square tubes, C channel, etc.), with blade in angle, facilitates cutting with optimal performance.

Automatic blade guide movement with vise, ascertain minimum distance between the guide and the job.

Blade guide movement over L.M. Guideway ensures vibration free blade guide system.



Independent load mechanism on left & right blade guide controls the cutting conditions and load over the blade at both ends and makes better cuttin conditions for solid wide work piece.



An integrated heavy duty 800 mm long support table facilitates easy setting of heavy jobs. A robust construction of integrated support table with rollers makes it easy to set a heavy duty job.

ToolMaster

DC300 - DC300XL - DC420 Semi-Automatic Bandsaw



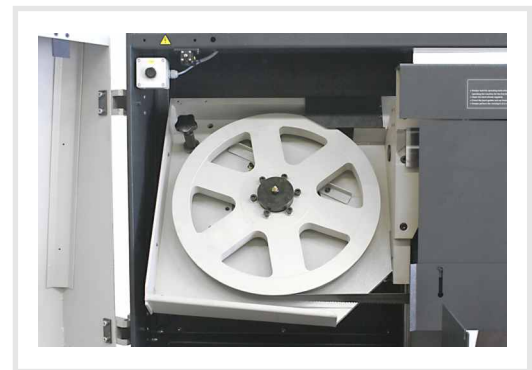
ToolMaster is engineered for metal cutting tasks, where there is no need for large scale automated cutting and flexibility for ad-hoc cuts is preferred and therefore it is ideal for Toolmakers, Steel trades and engineering shops.



Simple, visible and readable operator console with 4" Touch screen display. Touch screen displays the Blade speed, cutting time, counters and alarms. It facilitates programming of automatic vice opening and cutting arm lifting, to a pre-defined position after the job ends. Chip conveyor operation cycle menu is inbuilt.

ToolMaster is a True Dual Column heavy duty band saw. PE-TRA Dual Column design assures structural rigidity. This Patented solution for precise, parallel movement of the frame including Ball Rail System on both columns provide superior fine movement of the frame eliminating both the influence of the center of gravity and cutting forces on the frame while greatly reducing the total weight of the machine and also minimizing the inherent vibrations. This alone assures an "advantage by design" in comparison to its competition. The end result is a very precise cut and the best quality of the cut surface.

ToolMaster machines are equipped with an automatic locking of movable blade guide before cutting starts to avoid human error and eliminates any vibration. Blade guide movement is automatic.



This highly engineered machine with big wheel diameter of 500 mm, which is the biggest in its category, very important for the durability of blades. Solid Driver & driven wheels are plasma cut to the size & precisely machined grooves at the surface gives required grip to the blade.

Technical Specifications	Model DC300	Model DC420
Cutting Capacity Round/Square.....	300 / 300 x 300 mm.....	420 / 420 x 420 mm
Drive and Inverter.....	3 kW.....	4 kW
Band Wheel Diameter.....	500 mm.....	500 mm
Infinitely variable blade speed.....	20 - 120 m/min.....	20 - 120 m/min
Blade Size.....	4150 x 34 x 1,1 mm.....	4975 x 34 x 1,1 mm
Size L x W x H.....	1100 x 2100 x 1650 mm.....	2400 x 2000 x 1850 mm
Net Weight.....	1400 kg.....	1700 kg

Semi-Automatic Bandsaw ToolMaster DC300XL

Cutting capacity Round/Square 300 / 300 x 520

This compact machine accommodate 300 x 520 mm, takes first cut up to 300 mm height and stops automatically. To cut remaining height material has to be clamped upside down (An inbuilt laser line pointer helps in matching the cutting line).

Technical Specifications Model DC300XL

Cutting Capacity Round/Square.....	300 / 300 x 520 mm (To be cut in two settings)
Drive and Inverter.....	3 kW
Band Wheel Diameter.....	500 mm
Infinitely variable blade speed.....	20 - 100 m/min
Blade Size.....	4150 x 34 x 1,1 mm.
Size L x W x H.....	1100 x 2100 x 1850 mm
Net Weight.....	1500 kg





PE-TRA® PCS

Production cutting systems and turnkey solutions

Production efficiency is a key to the success.

Most of the metal processing needs metal cutting as first step. Though it is important, it was least valued till date. With increase in material prices and many of other steps being optimized the cutting comes to the centre stage. Now industries with high cutting demands are paying lot of attention to this stage.

What's new?

PETRA Machines Production Cutting Systems are designed for large scale cutting with simplicity and reliability according to specific cutting needs, i.e. cutting capacity of per day or per month basis and carry guaranteed low **Cost-per-Cut**.(*)

It offers increased productivity and labor efficiency while providing full control and monitoring of error management and control of machines, preventive maintenance, workflow and tool management from local or remote desktops.

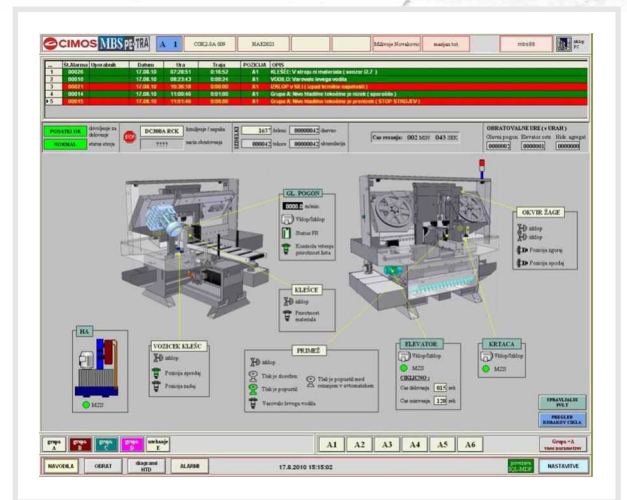
Approach

PETRA Turnkey solutions take into account every aspect of the operation and guarantees low **Cost-per-Cut**(*) with integrated approach of a scientifically designed facility with PETRA Band saw machines and tools.

Features

- Optimum utilization of working space.
- Optimal cutting parameters for specific material of cutting speeds, feeds.
- Recommends cutting oils.
- Recommends cutting tool.
- Best utilization of material handling facilities, by designing easier, smoother and safer work layouts.
- Design cutting processes to save on material.
- Optimize utilization of man power.

(*With recommended number of machines of PETRA make, tools and other facilities as designed for specific application. Requires extensive testings of material being cut.)



Error management and control (EMC): a real time online machine error management system provides machine status and nature of error to take corrective actions by supervisory staff.



Cell Management module (CM): for monitoring every machine in a cell and provides real time data about material designation, blade identification and operator identification.

PE-TRA®

High Class at Affordable Price

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