OFFER LIST

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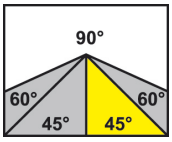
Master 3.0



3150 x 27 x 0,9

	90°	+45°
●	300	240
■	285	220
▬	305 x 290	235 x 130

Main motor	400 V, 50 Hz, 2,2 kW
Pump motor	400 V, 50 Hz, 0,05 kW
Hydraulic motor unit	400 V, 50 Hz, 0,55 kW
Servo motor of the feed	1,3 / 2 kW
Feed rate of material	1,6 / 2,5 / 3 m/min.
Saw blade speed	15-90 m/min.
Working height of vice	850 mm
Hydraulic system oil	cca 26 l (ISO 6743/4-HM, DIN 51 524 part 2-HLP)
Coolant tank	cca 35 l
Machine dimensions	Dimension drawing
Machine weight	1020 kg

DESCRIPTION

The new generation of Master series CNC automatic band saws represents the best in the market in terms of material cutting productivity in the engineering industry. Operator communication with the machine is simple and intuitive. The new software guides the operator step by step by entering all the necessary data, allowing efficient operation of the band saw within minutes of unpacking the machine.

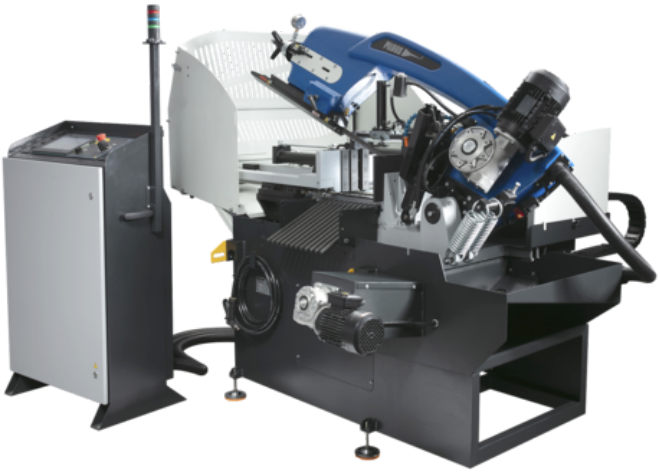
Mechanically, the machine is designed with very small dimensions, while maintaining the same or better parameters to occupy the smallest possible footprint. Emphasis is placed on the rigidity of the entire machine. An extremely robust arm, hollow throughout its profile, cleverly conceals the hydraulic and electrical circuits. The CNC automatic machine is equipped with a material feeding mechanism using an industrial servomotor, which, together with a precise ball screw, ensures high speed and very accurate material feed even with multiple workpiece clamps. The feed speed can be set to three different values depending on the weight of the workpiece. The workpiece is placed on a continuous track, the feed is provided by rollers, thus avoiding abrasion of the workpiece. The machine can be connected to a workpiece bin. The workpiece is clamped by a feed vice and a main vice. It is also possible to fit a vice behind the cut for better workpiece clamping or a retractable hydraulic jaw on the feed vice for cutting crooked workpieces. Vertical clamping with HVP is now independently controlled and ensures comfortable clamping of workpiece bundles. The entire machine is controlled by a powerful industrial PLC computer. For comfortable operation, it is connected to a large 10" high-performance colour touch screen. The machine connection to the line or to a remote master control is handled by secure hardware.

You can program up to 49 different lengths and quantities of workpieces. Each such program can also be supplemented with a note or drawing number. In addition to the fully automatic mode, the machine can also be operated in manual mode. Workpiece clamping and arm feed with the saw blade is controlled by a hydraulic unit. The descent can be controlled by means of precision proportional hydraulic technology and an autonomous control system for increased comfort and cutting efficiency. The cutting tool is a 27x0.9mm saw blade, which is produced in many variants and enables industrial splitting of a wide range of materials, including stainless steel or tool steel. For maximum cutting productivity, you can set the optimum saw blade speed using a frequency converter in the range of 15–90 m/min for even greater cutting accuracy and increased saw blade service life.

Highlights of the brand new MASTER concept:

• Machine operating system developed by Pilous – PilOS
• Reduced minimum material residue (125 mm)
• Optimum saw blade cutting speed can be set via frequency converter in the range of 15–90 m/min, or up to 120 m/min as standard
• Retraction of the workpiece when the saw blade arm moves to the upper position, with the saw blade in constant motion. Extends the service life of carbide saw blades.
• Fully lifting clamping vices
• Independently controlled top clamps HVP
• Possibility to cut workpieces at an angle of 0–45°
• Pressure control in the main and feed vice for clamping different workpieces included as standard on the machine
• Retractable fixed jaw of the feed vice for crooked materials
• Automatic retraction and extension of the saw blade above the material according to the workpiece to reduce cutting times
• Roller track and very powerful servomotor for handling very heavy workpieces
• Rollers and replaceable jaws preventing damage to workpieces during handling, e.g. aluminium semi-products, etc.
• New robust design of the screw conveyor of chips with increased discharge capacity
• Sensors on the main vice along with the control system allow precise workpiece positioning without the need for end cutting
• Very simple and intuitive control system
• Information windows to assist the operator with software functions, error messages, etc.
• Advanced users can take advantage of an enormous amount of machine settings, user accounts, machine reports
• Managerial indicators of cutting productivity – cutting times, cutting productivity of operators, consumption of saw blades, etc.
• Diagnostic functions, maintenance checks, fluid changes, machine cleaning, etc.
• Machine status notifications by SMS or visually by a beacon
• Automatic control of feed pressure connected to precision proportional hydraulics
• Possibility to connect the machine to lines, remote control, control also by mobile phone
• Possibility of remote service support
• Possibility to increase machine security with optical fences and barriers, cameras
• Much more…

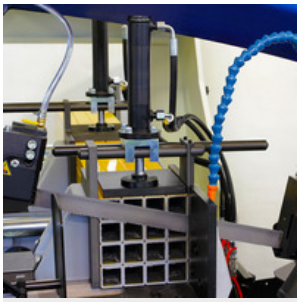
PHOTOGALLERY



ACCESSORIES

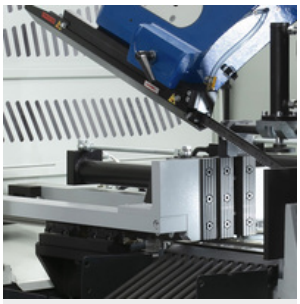
FR*

Frequency converter - Standard equipment
Enables continuous blade speed regulation between 15–90 m/min. and thus setting the optimum cutting conditions for the given material.



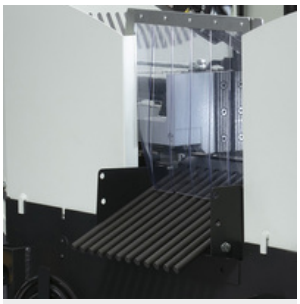
HVP NC 250/300/330

Hydraulic pressure device NC
Used to clamp bundles of material to be cut. It provides reliable clamping with hydraulically operated vertical pressure, working within the machine's cycle. It is installed on the fixed vice and feeding vice.



ADV master

Additional vice behind the cut ADV master
The double-sided workpiece clamping prevents unwanted movement of the workpiece during cutting, reduces vibrations and spares the saw blade.



KL master

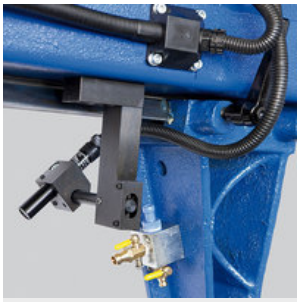
Material chute KL master
Continuously joins the vice behind the cut and allows for easy slide of cut pieces into a container when cutting larger series.

LA 50

Halogen lamp LA 50
Provides good lighting of the workplace of the machine. An invaluable tool especially when the lighting at the workplace is insufficient.

MM

Oil mist lubrication MM
Creates an oil mist that is sprayed onto the cutting edge. It replaces the use of a classic coolant, especially when cutting sections during which leakages may occur. Possibility of using organic oils.



LS

Laser alignment LS
High-quality industrial laser projects the cutting line on the material to be cut. Makes the setting of the required material length simpler, faster and more accurate.

KDM

Cleaning brush KDM
Steel cleaning brush, driven by driving wheel. Used to remove chips from the saw band behind the cut.

SD

Screw chips conveyor SD
Ensures smooth removal of chips from the machine. Reduces the time needed for the cleaning of the machine especially when cutting series of full materials producing large amount of chips.

SDB

Chip container SDB
For easy handling is chip container equiped with wheels and swivel chip bin.

CD

Saw band tension indicator CD
Ensures accurate tensioning of the saw band to a required value according to the pressure gauge and its control during the use of the machine. Optimum tensioning of the saw band is essential for its service life and cutting accuracy.

OPL

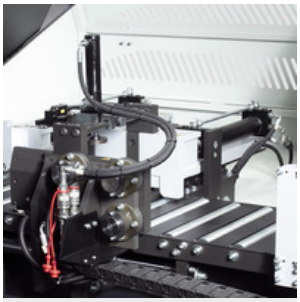
Rinse spray gun OPL
For cleaning working space of the machine.

M3

Signalling beacon M3
Signalling beacon is designed for a remote check of the working status of the machine. Trichromatic beacon is fitted with LED lights of a high luminosity and visibility from all directions, thanks to a unique shape of lenses.
Green light – indication of a working mode of the machine, sawblade is in the cut. After cutting operation and sawblade stopping the light switches off signalling that a next cut can be started.
Red light – indication of malfunction, e.g. broken sawblade, main motor overload, opened safety cover and other failures leading to the stop of the machine.
Blue light - indication of material ending etc.

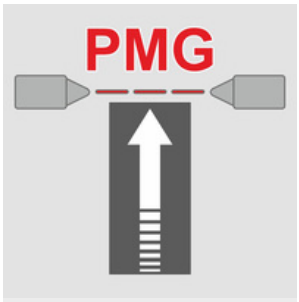
PV

Additional roller PV
To be installed instead of the slide behind the cut. Facilitates the feed of the material when cutting long workpieces.



HRJ

Retractable jaw HRJ
Retractable hydraulic jaw of the moving vice. Allows precise feeding even of crooked workpieces.



PMG

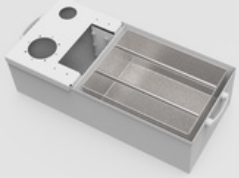
Precision material guidance system PMG
The machine is able to detect the start of the material using a laser. If the face of the material is straight and perpendicular, there is no need to end-cut the workpiece. This speeds up the whole cutting process and saves material.

GSM

Saw status sending system GSM
If the cutting program is terminated or interrupted due to lack of material, saw blade breakage, etc., the machine sends information by SMS to up to three phone numbers.

RMC

Remote machine control RMC
For safety reasons it is also possible to control the machine remotely using, for example, a mobile phone. You can connect an external camera.



ST separator

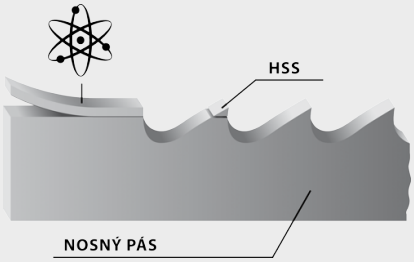
Chip separator ST
The chip separator is a galvanized, finely perforated container for efficient collection of sawdust that has passed through a sieve in the base. This container is easily removable when filled and is easy to clean outside the machine.

STM magnetic separator

Magnetic chip separator STM
For particularly fine chips that have passed through the sieves in the saw, a highly efficient magnetic separator is used. It saves time for cleaning and disassembling the cooling path and extends the service life of the cooling emulsion. This device is easily removable and easy to clean outside the machine by simply pulling the magnetic bars out of the housing.

MAXtech

- Original bandsaw blades produced using the latest technology with top-quality German materials, while strictly complying with all stated production and control procedures.
- High productivity and precision of cut with the maximum service life of the blade is ensured.
- Wide range of produced types of sawblades and toothing enables the professional cutting of almost all available materials.



Bi-metal blade

Consists of bearing band from special steel on which a layer of HSS material is welded into where the teeth are milled.

Constant toothing

The distance of the teeth are always the same.

Variable toothing

The distance of teeth vary and is periodically repeated. This results in a greater cutting range, ability to further eliminate vibrations caused by the impact of the tooth blade on material, longer service life of the blade.

M42

Universal blade recommended for a wide palette of material, including tool steels and stainless steel up to hardness 45 HRC. Teeth are made from steel HSS-M42 containing cobalt.

M51

Blade for tool and stainless steel with hardness up to 50 HRC. Tooth tips are made from steel HSS-M42 containing cobalt and wolfram

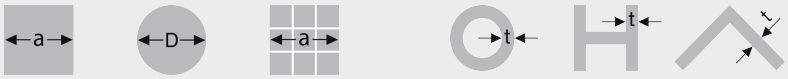
Carbide

Consists of bearing band from special steel into which the teeth are milled on which especially grinded carbide plates are welded. The carbide mounted blade is recommended for cutting surface hardened materials, chrome parts, forged pieces and materials with external tenacity and hardness up to 62 HRC.

Cutting range

For optimal output of the blade, the correct selection of the size of the blade tooth is important depending on the size of the divided material.

SOLID MATERIALS	PROFILED MATERIALS



Variable toothing		Constant toothing		Variable toothing		Constant toothing	
a(D) [mm]		a(D) [mm]		t [mm]		t [mm]	
0–25	10/14	0-10	18	0-4	10/14	0-1	18
20-40	8/12 (8/11)	5-20	14	3-6	8/12 (8/11)	0-3	14
30-60	6/10	20-40	10	6-9	6/10	4-7	10
40-70	5/8 (5/7)	40-80	6	9-13	5/8 (5/7)	8-11	6
60-110	4/6	80-120	4	12-16	4/6	12-15	4
80-140	3/4	120-200	3	16-22	3/4	16-20	3
120-350	2/3	200-400	2	20-35	2/3	21-30	2
250-550	1,4-2	300-800	1,25	30-85	1,4-2	31-90	1,25
380-750	1/1,5			40-85	1/1,5		
550-3000	0,75/1,25			80-200	0,75-1,25		

When selecting the number of teeth for the blade, the general principle applies of a minimum of 4 teeth, but no more than 30 teeth are in contact with the work piece.

Be careful when unpacking welded saw blades. They are in a shipping container in tensioned condition. Remove the saw blade cover only after fitting it onto the machine.

EMULSION

COOLcut Standard

COOLcut Standard – universal coolant and lubricant.
Recommended concentration 5–10 %. 5 litres pack. Dilution 1:20.
• fluid allows achievement of optimal lubricating and cooling properties during the machining process
• low aromatic, highly refined paraffinic oil
• effective corrosion inhibitors provide permanent protection of the workpiece and the machine from corrosion
• bio stability and excellent wettability ensure excellent cooling and lubricating effect even in very hard water
• minimum tendency to foaming ensures effective lubrication
• high efficiency and profitability of use
Except use on log band saws the product is designed for machining operations carried out both on conventional machines and NC and CNC machining centres.

COOLcut Opti

COOLcut Opti – universal coolant and lubricant. Such machining fluid allows achievement of unique lubricating and cooling properties during the machining process.
Recommended concentration 4–7 %. 1 and 5 litres pack. Dilution 1:20.
• low aromatic, highly refined mineral oil
• effective corrosion inhibitors provide permanent protection of the workpiece and the machine from corrosion
• above average stability and excellent wettability ensure excellent cooling and lubricating effect even in very hard water
• minimum tendency to foaming ensures effective lubrication
• high efficiency and profitability of use
• long-term biostability
In addition to use in saw bands the product is designed for machining operations carried out both on conventional machines and NC and CNC machining centres.

COOLcut Eco 65

COOLcut Eco 65 – universal cooling and lubricating emulsifying oil, well biodegradable according to OECD 301-D test. Biodegradability of 65 % in 21 days.
Recommended concentration 4–7 %. 5 litres pack. Dilution 1:20.
• Such machining fluid allows achievement of unique lubricating and cooling properties during the machining
• process
• highly refined synthetic ester oil
• effective corrosion inhibitors provide permanent protection of the workpiece and the machine from corrosion
• above average stability and excellent wettability ensure excellent cooling and lubricating effect even in very hard water
• minimum tendency to foaming ensures effective lubrication
• high efficiency and profitability of use
• long-term biostability
In addition to use in saw bands the product is designed for machining operations carried out both on conventional machines and NC and CNC machining centres.

COOLcut Bio 90

COOLcut Bio 90 – universal cooling and lubricating emulsifying oil, well biodegradable according to OECD 301-D test. Biodegradability of 90 % in 21 days. Due to its biodegradability it can be used in any outdoor environment without environmental damage.
Recommended concentration 4–7 %. 5 litres pack. Dilution 1:20.
• Such machining fluid allows achievement of unique lubricating and cooling properties during the machining
• process
• highly refined synthetic ester oil
• effective corrosion inhibitors provide permanent protection of the workpiece and the machine from corrosion
• above average stability and excellent wettability ensure excellent cooling and lubricating effect even in very hard water
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• long-term biostability
In addition to use in saw bands the product is designed for machining operations carried out both on conventional machines and NC and CNC machining centres.

COOLcut Micro

COOLcut Micro – an easily biodegradable semi-synthetic cooling and lubricating micro-emulsion. Due to its biodegradability it can be used in any outdoor environment without environmental damage. Such machining fluid allows achievement of unique lubricating and cooling properties during the machining process.
Pack of 5 litres. Use undiluted.
• highly refined synthetic ester oil
• effective corrosion inhibitors provide permanent protection of the workpiece and the machine from corrosion
• above average stability and excellent wettability ensure excellent cooling and lubricating effect even in very hard water
• minimum tendency to foaming ensures effective lubrication
• high efficiency and profitability of use
• long-term biostability
In addition to use in saw bands the product is designed for machining operations carried out both on conventional machines and NC and CNC machining centres. 5 litres pack.

COOLcut Antifreeze

COOLcut Antifreeze – low-freezing ingredient for water miscible coolants used in winter in outdoors environment, up to minus 20 °C, depending on the dosage.
5 litres pack. Dilution 1:20.
• effectively lowers the freezing point of the fluid
• very good resistance to oxidation guarantees long service life
• does not act aggressively on the sealing elements (elastomers), to which it comes into contact.

Optima Antifreeze	(%)	10	20	30	40	50
Flowability temperature	(°C)	-5	-10	-17	-26	-40

RECOMMEND

OH 90

Simple and very fast deburring of all kinds of sections (including the internal edges) or full material by a rotary steel brush. High quality construction of the machine along with a three-phase motor make use of the machine possible in specialized workshops as well as in production plants. Compared to manual deburring it reduces the required time and hence reduces your costs. While maintaining incomparably higher and balanced quality of deburring.
We recommend using stainless steel brush for stainless steel products.
Example of the difference between manual deburring (including internal edges) and OH 90

Hollow section 60 x 60 x 2 mm:	manual deburring - 32 s	machine OH 90 - 8 s
Tube diameter 50 x 2 mm:	manual deburring - 21 s	machine OH 90 - 4 s

OHE 90

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