

# Pilana Metal Cutting Saws

Material cutting as a chip type machining method has made a great step from cutting by power hacksaws up to highly effective cutting by band and by circular saws. Pilana company wants to follow this process and our idea is to offer relatively wide assortment of band saw machines from very simple portable one up to highly effective and powerful automatic and NC machines.

Also the maximal material dimensions which can be cut by Pilan machines varies in wide range starting by dia 100 mm for the smallest saw up to square blocks 1300x1300 mm for the biggest saw.

Special category is NC automatic saw, fully covered by special housing and suitable to apply highly efficient carbide tipped bands and next 3 highly productive express circular saws.

For long cuts in large material blocks we offer also special vertical band saw.

Pilana saws can be divided to following categories:

MAINTAINANCE	WORKSHOP	PRODUCTION	PRECISION	FACTORY	EFFICIENT	POWERFULL	INDUSTRY	EXCELLENT
Manually operated saws	Manually operated,hydraulically limited arm descend	Semiautomatic swing arm type saws	Half-automatic column type saws	Automatic swing arm type saws	Automatic column type saws	Automatic NC column type saws	Automatic express circular saws	Vertical bans saw
PMS 100/150 MO	PMS 180/230 SAO	PMS 230/260 HAD	PMS 360/360 HCN	PMS 250/300 ANS	PMS 260/310 ACN	PMS 460/460 ACP	PMS 65/52 CSHS	PMS 600/1500 VS
PMS 170/210 MO	PMS 230/260 SAD	PMS 250/310 HAD	PMS 460/820 HCDP	PMS 250/300 AN	PMS 360/360 ACN		PMS 100/80 CSHS	
PMS 230/260 MO	PMS 250/310 SAD	PMS 270/350 HAD	PMS 500/700 HCN	PMS 330/330 AN	PMS 460/500 ACN		PMS 150/110 CSHS	
	PMS 270/350 SAD	PMS 330/510 HAD	PMS 760/820 HCN	PMS 420/415 AN	PMS 560/615 ACN			
		PMS 330/460 HAD	PMS 1000/1000 HCN	PMS 350/620 AD	PMS 650/700 ACN			
		PMS 400/620 HAD	PMS 1300/1300 HCN	PMS 460/460 AN	PMS 700/800 ACN			
		PMS 460/600 HAD						
		PMS 460/600 HADP						

## How Pilana machines are marked:

Marking of all Pilana machines presents the producer and their basic cutting properties. It consists of two groups of block letters and one group of digits – see the following:

### **PMS 330/510 HAD**

The first group of block letters – PMS - means Pilana Metal Saws

Group of digits - 330/510 - presents maximal material dimensions which can be cut by the machine. 330 presents maximal diameter and 510 maximal length of material for perpendicular cuts.

Last group of block letters – HAD presents basic machine technological properties in accordance with following list::

### **1. MAINTAINANCE**

M – manual operated saw  
O – one side angle cutting

### **2. WORKSHOP**

SA – semi automatic – like half automatic but swing arm descend is limited by hydraulic cylinder  
O – one side angle cutting  
D – double side angle cutting

### **3. PRODUCTION**

HA – **H**alf **A**utomatic, swing arm descend is controlled by hydraulic cylinder  
D – **D**ouble side angle cutting  
P – **P**owered, the arm swivelling for angle cutting is hydraulic

### **4. PRECISION**

HC – **H**alf automatic **C**olumn, arm descend is controlled by hydraulic cylinder  
N - **N**o side, no capability for angle cutting  
D – **D**ouble side angle cutting  
P – **P**owered, the arm swivelling for angle cutting is hydraulic

### **5. FACTORY**

A – **A**utomatic swing arm saw, arm descend is controlled by hydraulic cylinder  
N - **N**o side, no capability for angle cutting  
S – **S**imple, the saw is not equipped by numeric control  
D – **D**ouble side angle cutting

### **6. EFFICIENT**

AC- **A**utomatic **C**olumn saw, arm descend is controlled by hydraulic cylinder  
N - **N**o side, no capability for angle cutting

### **7. POWERFULL**

AC- **A**utomatic **C**olumn saw, arm descend is controlled by hydraulic cylinder  
P- **P**erformance, highly efficient saw adapted for carbide tipped bands.

### **8. INDUSTRY**

CSHS – **H**igh **S**peed **C**ircular **S**aw (express saw)

### **9. EXCELLENT**

VS – **V**ertical **S**aw

## MAINTAINANCE category

Very simple basic models of manually operated band saws, Suitable for maintenance workshops to cut solid materials of small dimensions, tubes, structures. Capable for one side angle cutting. The blade is guided only by ball bearings

**PMS 100/150 MO** – portable type, 13 mm band, voltage 230 V, speed 45 m/min

**PMS 170/210 MO and PMS 230/260 MO** – stand type, low and high speed, equipped by cooling system. Option – hydraulic cylinder for limited arm descend  
- band tension indicator.

## WORKSHOP category

Simple models of manually operated band saws, arm descend can be limited by hydraulic cylinder or operated manually. Suitable for fitting shops and small workshops to cut solid materials of small dimensions, tubes, structures. Angle cutting capability, low and high speed.

**PMS 180/230 SAO** – band 20 mm guided by ball bearings, one side angle cutting.

**PMS 230/260, 250/310, 270/350 SAD** – band 27 mm guided by hardmetall + bearings, double side angle cutting

## PRODUCTION category

Half-automatic swing arm band saws capable for double side angle cutting of great range of material dimensions. Solid materials, tubes, structures can be cut. Suitable for standard workshops and plants.

**PMS 230/260, 250/310, 270/350 HDA** – arm descend is limited by hydraulic cylinder, hydraulic vices, low and high speed.

**PMS 330/510 HAD** – very well equipped machine, speed conversion unit, speed value is digitally indicated, feed is controlled hydraulically, full stroke hydraulic vice, band tension indicator.

**PMS 330/460 HAD** manually operated vice only, 4 speeds can used

**PMS 400/620 HAD** – short stroke hydraulic vice, 4 speeds, band is tensioned hydraulically including tension and band break indicator, roll 2 m input conveyor.

Option: full stroke hydraulic vice  
speed variator

**PMS 460/600 HAD a HADP – like 330/510**, but speed conversion unit, band is tensioned hydraulically and electronically indicated, hydraulic arm swivelling and electronic angle indicator. For angle cuts the vice is moved hydraulically.

## PRECISION category

Machines are earmarked namely to cut blocks of solid material of medium and large dimensions where angle cuts are not requested.

**PMS 360/360 HCN** – band is hydraulically tensioned and its breakage is indicated. Input roll support can be hydraulically lifted to make material moving easier. Arm position above material and its move to material is stated automatically (waste time reduction). Sectional vice jaws to reduce vibrations and material rest. 2m roll input conveyor.

**PMS 460/820 HCDP** – this is the only column type machine fit for angle cuts. All arm adjusting and motions are proceeded by hydraulic jacks through control desk. Cutting speed is controlled by feeding electric current frequency converter. Automatic feed limitation system.

**PMS 500/700 HCN** – fully hydraulic control including guides grip and input roll table lifting (allows fine setting of length), manual feed roller.. Output roll table, sectional vice jaws. Cut line is projected by light beam

**PMS 760/820 HCN** – like 500/700 but hydraulic adjusting of guide arm position and band stop and break switch off.

**PMS 1000/1000 and 1300/1300 HCN** - like above but additional output vice and vibrations reducing roller.

## FACTORY category

Automatic swing arm machine for single or bundle cuts of solid material. No angle cutting capability excluded 350/620 AD.

**PMS 250/300 ANS, AN PMS 330/330 AN, 420/415 AN** – fully automatic swing arm type saws. They differ only in cutting capability.

Fixed vice with sectional jaws plus next moveable vice, linear measuring for automatic material feeding, hydraulic band tensioning (except 250/300 AN, ANS) and band breakage detection, speed conversion unit and digital speed indicator, two additional horizontal hydraulic jaws for bundle cuts. Multifunctional display.

**PMS 250/300 ANS and AN** differs only in control panel – ANS panel allows to state only one cutting length.

**PMS 350/620 AD** – double side angle cutting but for fully automatic mode only from 0° up to -60°. Hydraulic blade tensioning, blade breakage and stop indicator, frequency converter for speed conversion, PLC checking of all electric and hydraulic functions. NOT FIT FOR BUNDLE CUTTING.

**PMS 460/460 AN** – mechanical cut length measuring. Fixed and moveable vices allow to feed material automatically. Speed conversion unit. Hydraulic band tensioning including breakage and stop control. Additional jaws for bundle cuts.

## EFFICIENT category

Automatic column type saws, solid design, for cutting higher dimensions of material, 260/310 – 460/500 types are fit for bundle cuts. Hardmetal band guides, hydraulic band tensioning and band stop or breakage control. 360/360 and 460/500 are equipped by speed conversion unit, rest by frequency converter.

**PMS 260/310 ACN, PMS 360/360 ACN** – manual cut length measuring. Full stroke hydraulic vices, front vice fixed, jaws sectioned, rear vice moveable

**PMS 460/500 ACN** – short stroke hydraulic vice, manual measuring of cut length. Front vice jaws are sectioned, rear jaws are moveable.

Option – full stroke vice

- cut perpendicularity inspection unit
- frequency converter
- jaws force control

**PMS 560/615 ACN** – material fixing jaws are doubled, front ones are sectioned, rear jaws are moveable, full hydraulic stroke. Roll table. Band guided by hardmetal hydraulically controlled guides.

Starting this type no bundle cutting is possible.

**PMS 650/700, 700/800 ACN** – fully electronic all functions Numeric Control. Roll table. Front jaws fixed, rear jaws moveable, full hydraulic stroke. Guide arm moves in

accordance with vice jaw motion. Band is guided by hardmetal hydraulically controlled guides.

Option – cut perpendicularity inspection unit

## POWERFULL category

Very solid two column type fully covered NC saw. Carbide tipped bands are considered to be applied. For very efficient cutting of hardly machineable materials up to dimension 460 mm.

**PMS 460/460 ACP** - linear guideway, both vices moveable, the front one moves after cut for from band to protect it against any damage. nGuide arm moves synchronously with vice jaw motion, band guide hydraulically controlled. Touch screen display. HMI/PLC checking off all systems, defect autodiagnostic system, preadjusted parameters of different material cutting. Cut perpendicularity inspection unit.

Option – cutting speed from 10 up to 100 m/min.

## INDUSTRY category

Highly efficient circular saws for mass production plants, fit for solid square and round bar cutting up to dimension 150 mm hard tipped tools is supposed by HSS tools are applicable, too.

**PMS 65/52, 100/80, 150/110 CSHS** – fully automatic NC controlling and automatic table feeder needs minimum manual effort and gives high productivity. Cut area quality very often eliminates any additional machining. Standard storage and feed table fits only for automatic feeding of round bars.

Option – storage and feed table for square bars.

## EXCELLENT category

This saws both half and fully automatic are aimed for cutting of large dimensions of flat material.

**PMS 600/1500 VS** half automatic vertical band saw for cutting of material 600 height and 1500 mm wide. Its length is limited only by feed table length. Oil arm, table and band guides are realised by hydraulic jacks and safeguarded to prevent eventual damages. Full stroke hydraulic vises, hydraulic blade tensioning and blade guides clamping, frequency converter. Control panel can be located as operator needs.