



Katy Machinery Inc.

Technical Specification

Hot Log Saw for Aluminum Billets Ø 10" = 254 mm

Introduction

RIA developed a Hot Log Saw for aluminum billets with the following parameter.

- Roughness < 50 µm
- Ripple < 50 µm
- Log temperature ≤ 520 °C
- Cutting time appx. 15 s
- No lubrication remains on the log
- Clamping elements do not influence the diameter
- Cutting angularity $\Delta < 1^\circ$
- Hart Metal Saw blade
- Saw blade life > 10.000 cuttings
- Clean and safe chip extraction

Technical Data

- Material: Aluminum alloys from 1.000 to 7.000 Series
- Log diameter: 10"
- Cutting tolerance: ± 1 mm, depending on log feed rate
- Cutting angularity: $\pm 0,2$ mm
- Cutting temperature: max. 520 °C
- Saw blade diameter: 870 mm
- Saw blade thickness: appx. 5 mm
- Feed rate: stage less controllable to 15 mm/s
- Cutting time: appx. 15 s
- Power input: 18,5 kW
- Cutting speed: appx. 60 m/s

Technical Description

The saw is consisting of a massive base frame with a guided sawing carriage, a sawing motor (18,5 kW) and the sawing blade mounted. The feed rate is stage less controllable. The carriage is moving in a front and rear end position. The saw blade is rotating at a constant speed. Blade geometry, feed rate and rotating speed are matched to each other. Depending on the log temperature there is an adjustment of the feed rate. The log will be clamped hydraulically in front and after the saw blade.

All chips will be extracted over a cyclone in a container. The hard metal saw blade is developed for hot sawing and can be sharpened.

The lubrication is a usual minimal lubrication done with Acculube-lubricant to avoid remains on the aluminum log.



Chip extractions system SMU 1200S

- Air flow volume	1235 m ³ /h
- Pressure	3400 Pa
- Dust	less 0,1 mg/m ³
- Motor	4 kW IP 54
- Funnel volume	230 l
- Dimension W x B x H	2300 x 900 x 1965 mm

Control system

- Stand Alone	
- Cabinet W x H x L	500 x 2.000 x 800 mm
- Main Disconnect	63 A
- Control power	230 VAC, 24 VDC
- Emergency Stop	
- Power Rail	fuse-less motor starter for Hydraulic and Saw motor
- Frequency driver for Saw blade	22 kW
- PLC	CPU S7-300 / ET200S IM 151-8 PN/DP Profinet
- Periphery	ET 200S for Input/Output at the Machine