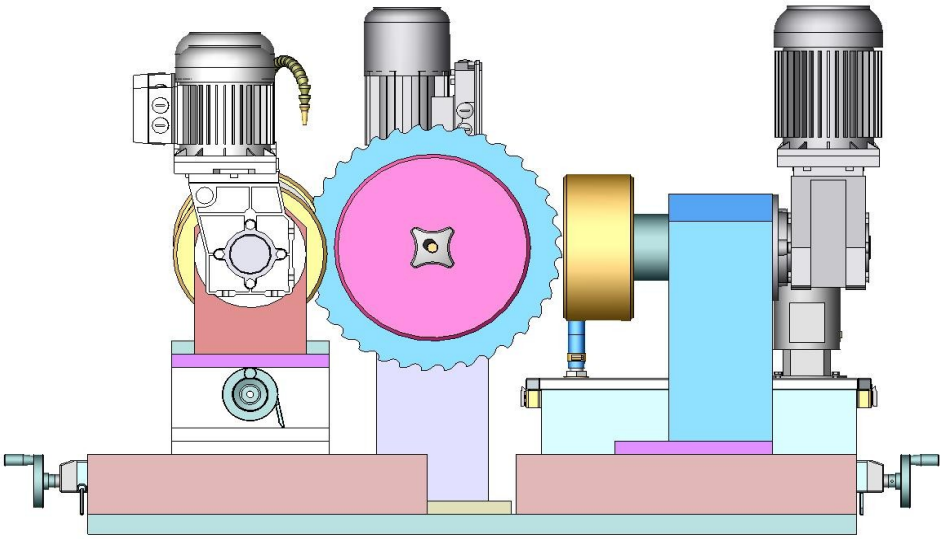
Processing Machine for Saw Blades MFS

A. Application

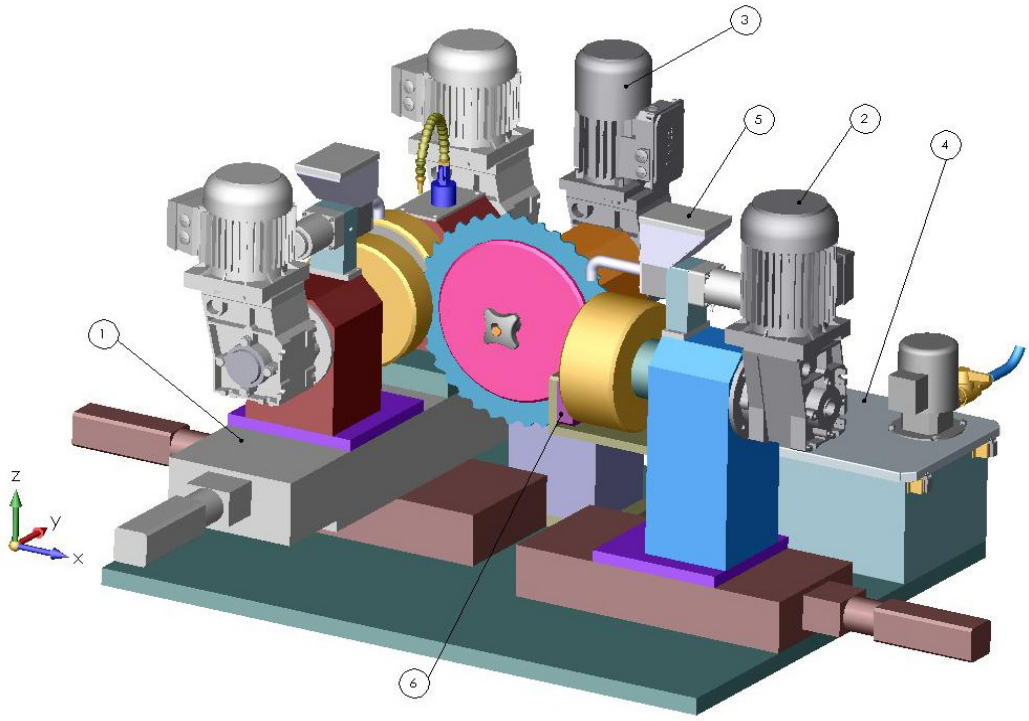
This machine applies the Magnetfinish-Technology to saw blades with diameters between 80mm and 630 mm, particularly for precision rounding of cutting edges, polishing of surfaces and deburring. An optimal preparation before tool coating is achieved through controlled honing of the cutting edges and elimination of grinding marks. After the coating process the Magnetfinish technology is able to reduce the roughness of the coating and to remove droplets, significantly enhancing coated saw blades performance.



B. Construction and Function

In order to shorten the process time all treatments are executed simultaneously.

The machine consists on three Sub-Moduls and some accessory equipment. Every of the three sub modules is driven witk constant speed. The magnetic instruments are installed on linear bearings, which allows translatory motion in positiv or negativ direction.



Pos. Nr.	*Benennung*	*Beschreibung*
1	*Sub-Modul 1*	*Station for processing flank of teeth (automatic)*
2	*Sub-Modul 2*	*Station for rounding the cutting edge (automatic)*
3	*Sub-Modul 3*	*driving station for saw blade*
4	*cleaning system*	
5	*Powder refilling (automatic)*	
6	*Powder distributing (automatic)*	

The intensity of the flank treatment will be controlled by moving the axis of the Sub-Module 1 in the direction y. The intensity of the edge rounding will be cotrolled by the x-axis of Sub-Modul 2. The adaption to different diameters is executed by the combination of x-axis of Sub-Modul 1 and x-axis of Sub-Modul 2.

During the process the magnetic instruments and the saw blades will be cooled with an aprooved cooling and cleaning liquid. The saw blade will stay clean and there is no heating of the material at all.

All process parameters are controlled by sensors and a computer system. The axis of the Sub-Modules will be driven by Servo-Motors. The chosen programm will adjust automatic all positions. The powder refilling device will turn on automatic, when the powder volume goes below a threshold. The powder distributing device is every time distributing the process powder completely. At the end of the process programm the maschine takes Home-Position and the Saw blade can be exchanged.

Steps of treatment a saw blade

1. Elect the apropriate programm (e.g. edge rounding on carbide).
2. Input process parameters (e.g. diameter and process time) or elect an already stored data set.
3. Closing the security housing
4. Programm start
5. Taking out saw blade

The processing machine can be operated with the menu conducted touchpanel. Once inserted, the working parameters of every processed tool type will be saved in the data bank. The machine will position all driving mechanisms according to the stored parameters after setting of the tool type. The machine complies all relevant european regulations for security and environment.

Technical Details

- width/depth/height: 1800/1700/1600 mm
- weight: 800 kg
- electrical connection: 4 KW, 3 AC 400 V, 230 V