

FOR MILLING OF RAILS

MAGNETIC - HYDRAULIC - MECHANICAL - VACUUM



EXPERIENCE INNOVATION SUPPORTING

The Company





- The optimum solution for your clamping application
- Magnetic Hydraulic Mechanic Vacuum
- Highest quality, "Made in Germany"



Nuremberg Administration, Sales



Nuremberg-Eibach Production, Engineering



Mittweida Production, Engineering

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Geographic Overview



GERMANY

Headquarters, Production



GERMANY

Sales & Marketing Germany – Austria - Switzerland



THE NETHERLANDS

Sales & Marketing International Production Heavy Lifting



CZECH REPUBLIC

Sales & Marketing Central & Eastern Europe Production Standard Products



POLAND

Sales & Marketing Poland



Sales & Marketing France



Sales & Marketing Asia Production Standard Products

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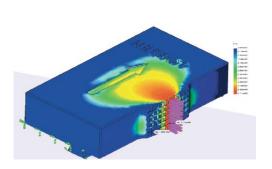
SAV Philosophy

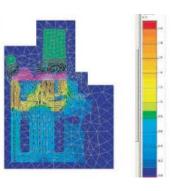
- The optimum solution for your clamping application
- Magnetic Hydraulic Mechanic Vacuum
- Highest quality Made in Germany
- All technologies supplied from one hand
- Full service partner

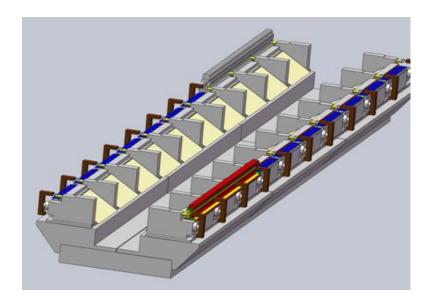


Engineering

- All projects are engineered to customer specification
- 3D designs and simulations
- FEM analysis
- Close co-operation with machine builders and end users





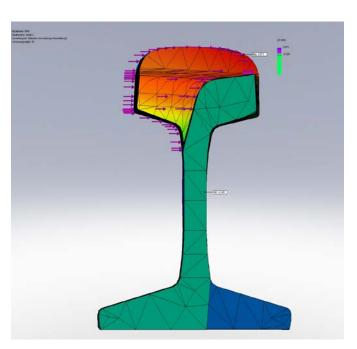


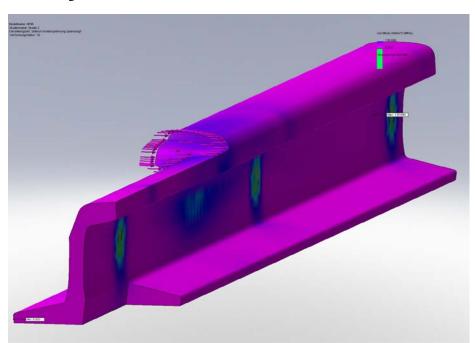




Engineering

FEM analysis

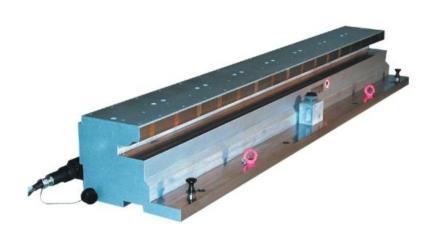








Technologies



Magnetic



Combined Magnetic - Mechanic/Hydraulic

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Features and benefits

High energy magnetic system for heavy chip removal

8

- Magnetic holding eliminates vibration
- Stable and rigid one-piece construction
- High accuracy
- Fully sealed
- Stays magnetized during power failure
- Low energy cost
- Modern electronic controls
- Automation possible

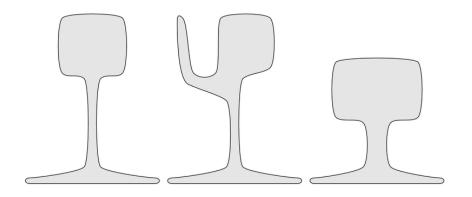




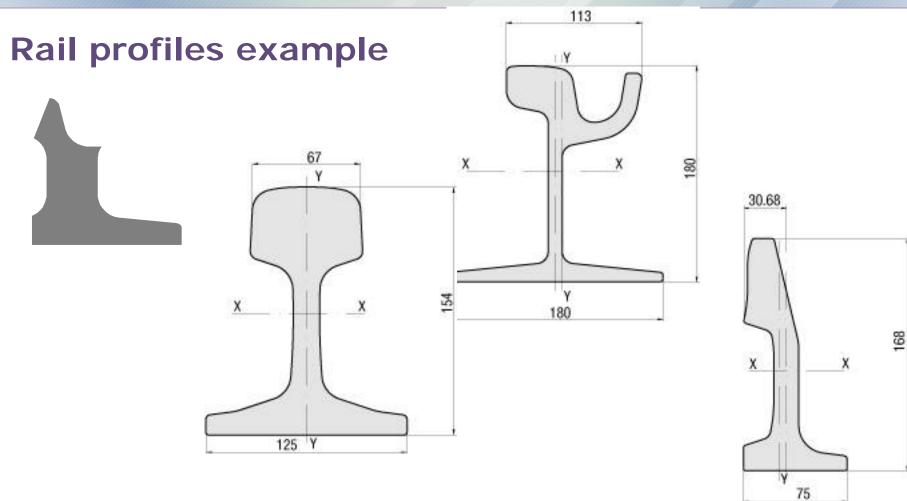
Rail profiles

SAV offers solutions for clamping and machining of virtually all rail Profiles:

- Flat bottom
- Switch rail
- Full web rail
- Guide rail
- Grooved tramway rail
- Crane rail
- \$49, \$54, UIC, ZU, etc.







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Rail milling solutions



EXPLANATION OF USED ICONS



FLAT BOTTOM RAIL

NP46; S49; UIC54; S54; UIC60 und weitere Typen



TONGUE RAIL

Zu2-49, ZuUIC-54, Zu1-54, Zu1-60



GROOVED RAIL

RiPh37A, VICRI60, 75C1 und weitere Typen



BLADE GUARD RAIL

Ri1-49, Ri1-54



BLOCK SECTION

kundenspezifisch



FULL WEB RAIL

Vo1-54, Vo1-49, Vo60E2-40, Vo1-60



GUARD RAIL

UIC-33, RISBB



CRANE RAILS

KSA alle Typen, CR, PRI85R

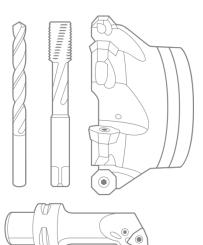
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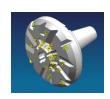
EXPERIENCE INNOVATION SUPPORTING

Rail milling solutions

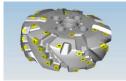


Tools, example





• 01 Walter Sonderformfräser – Schienenkopf



• 02 Walter Sonderformfräser – Laschenkammer



• 03 Walter
WSP Bohrer B42-Serie - Verbindungslöcher



• 04 Walter Planfräser

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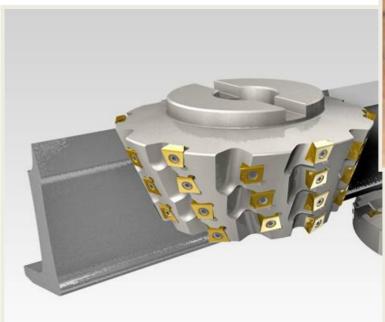


EXPERIENCE INNOVATION SUPPORTING

Rail milling solutions



Tools, example





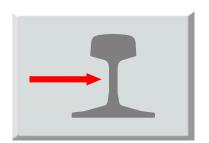
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machining example Milling of web section





Traditional clamping Hydraulic

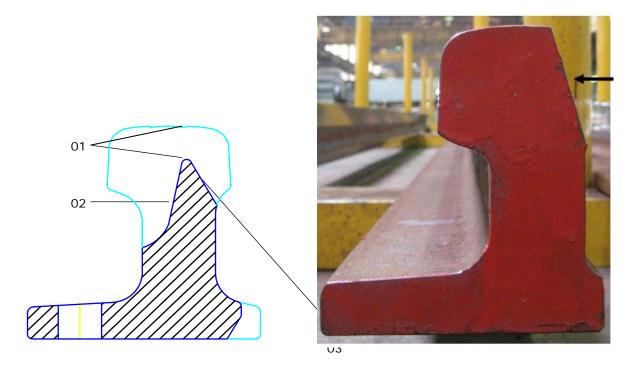
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machining example

Tongue rail









Web clamping



Magnetic

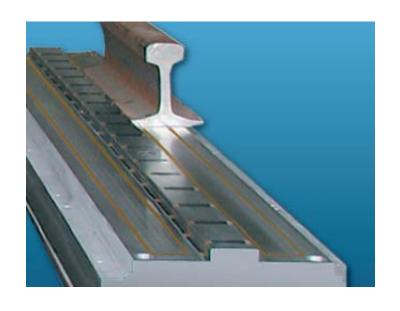


Combined for extreme cutting

EXPERIENCE INNOVATION SUPPORTING



Foot clamping



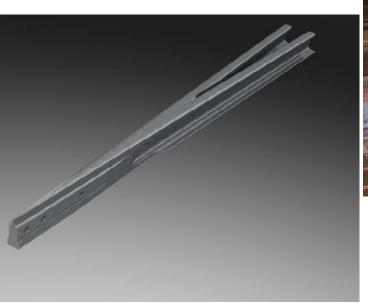
Foot & head clamping







Clamping of heart sections for switches, total automatically





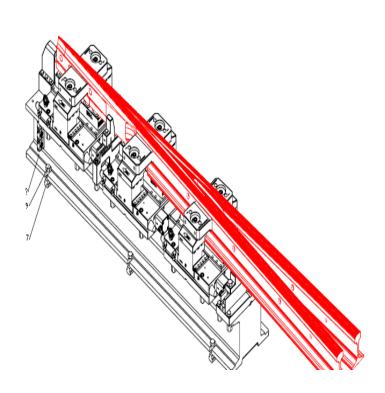
Combined for accurate electric controlled setting

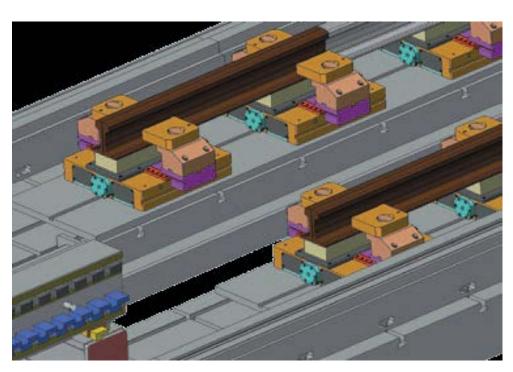
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EXPERIENCE INNOVATION SUPPORTING



Clamping of heart sections for switches, total automatically



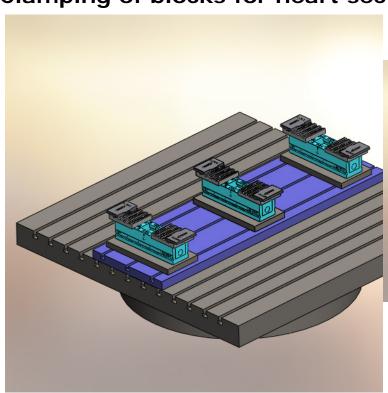


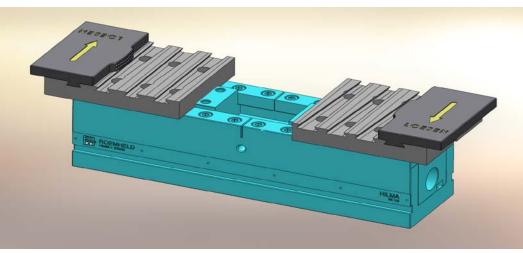
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Clamping of blocks for heart sections for switches general concept





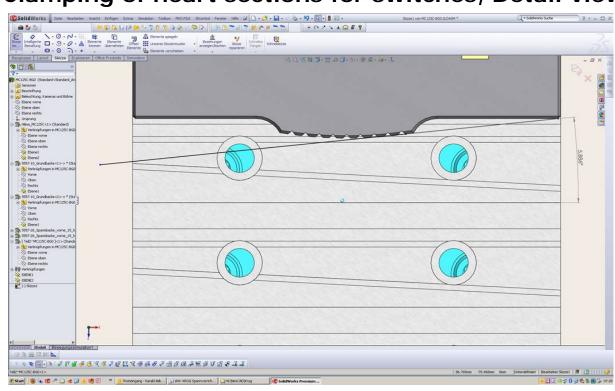
Mechanical solution

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Clamping of heart sections for switches, Detail view



Detail clamping jaw Type "SAV GRIP"

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Control solutions

Fixture partly or completely electric controlled, including remote

Automation possible







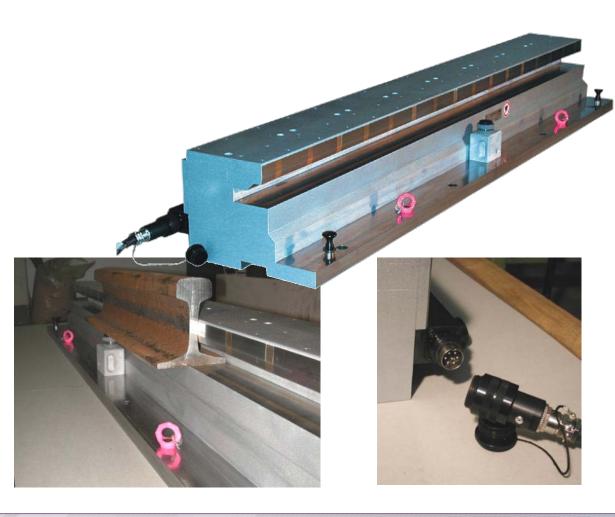




BWG

- Modular solution
- Moveable units
- Quick connectors
- System length 6 m





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BWG 2

- Combined solution
- Magnetic / hydraulic
- Extreme cutting









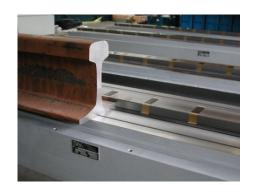
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BWG 3

- Milling of point blades and switch sections
- High energy magnetic system
- System length 32 m





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BWG 4

- Milling of heads and feet
- 2 side set-up
- System length 4 m

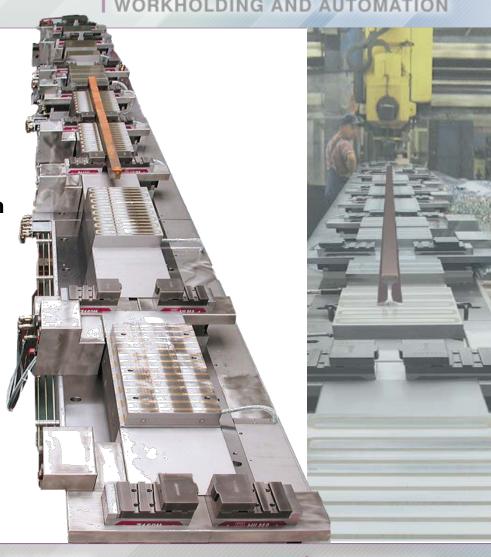




SAVA WORKHOLDING AND AUTOMATION

BWG 5

- Milling of block sections
- Extreme heavy cutting
- Clamping and damping with high energy magnets
- Centering and clamping of thin sections with hydraulic vices, centering and floating
- System length 12 m



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BWG 6

- Milling of head and foot
- Heavy cutting
- Foot & web clamping
- Additional hydraulic clamping, with retractable levers
- System length 8.5 m







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Deutsche Bahn

- Milling for switch manufacturing
- Clamping of point blades and switch sections, heart sections, block sections
- Set-up for extreme chip removal
- Combination magnetic, hydraulic and electro actuation principles
- Remote touch screen control
- System length 2x 24 m



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Deutsche Bahn (continued)

- Head & foot clamping
- Machining over entire length of rails

 Set-up for extreme chip removal







Deutsche Bahn (continued)

- Magnetic & hydraulic clamping
- Milling of heart sections
- Electric controlled angle setting
- Central touch screen controls







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Crossings example



Combination

- Magnetic & hydraulic
- Heavy cutting



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Crossings example



Combination

- Magnetic & hydraulic
- Heavy cutting



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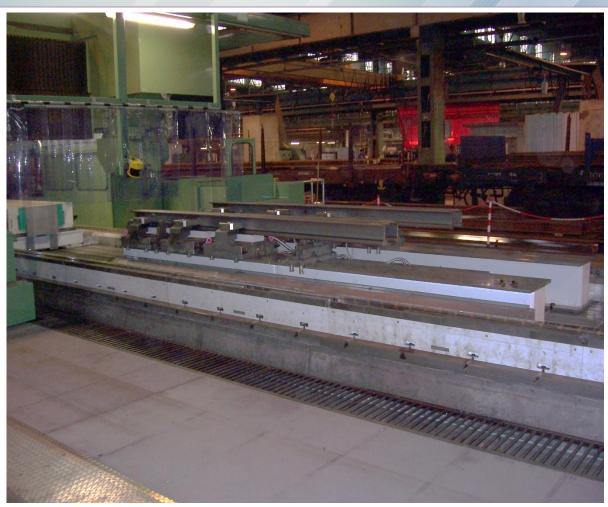


Crossings example side view with work piece



Combination

- Magnetic & hydraulic
- Heavy cutting





Electrical components, cabinet, controller



Cabinet

- Cabinet IP 54, with air conditioning
- With Siemens touch pad



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Electrical components, cabinet, controller



Cabinet

Cabinet IP 54 inside view



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Control panels, version

customized









Control panels, customized





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Service and installation



World wide service

- installation
- Start up
- Training of operators
- Technical after sales support
- with own qualified employees







SAV has all international important certifications

- Certification of conformity
- Quality certifications
- Grad of service





Qualitätssicherungs-Norm DIN EN ISO-9001

- CE-konform
- •gemäß Maschinenrichtlinie 2006/42/EG
- Niederspannungsrichtlinie 2006/95/EG
- EMV-Richtlinie 2004/108/EG
- ROH-konform

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