



System Technology from One Source



Star SU Do Brasil



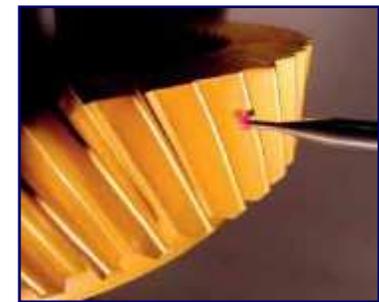
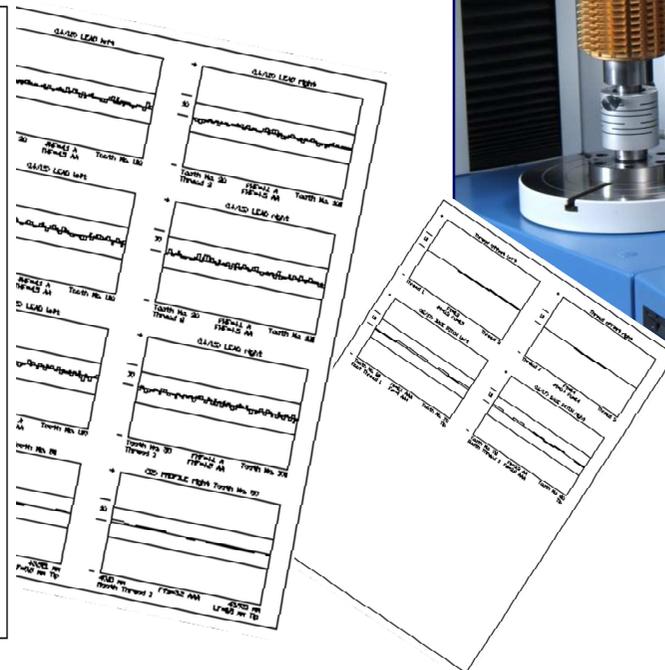
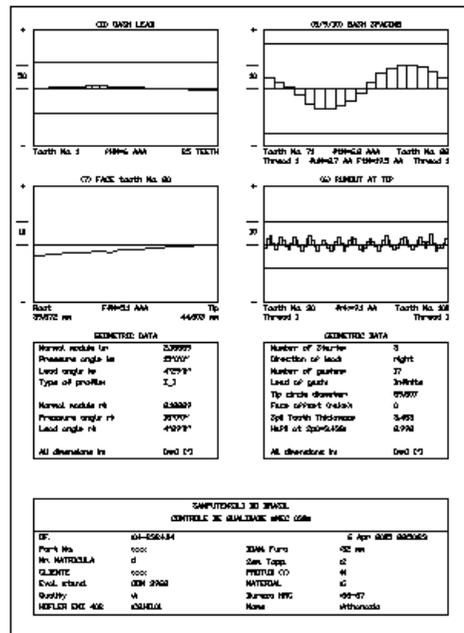
Star Su do Brasil Jundiaí - SP



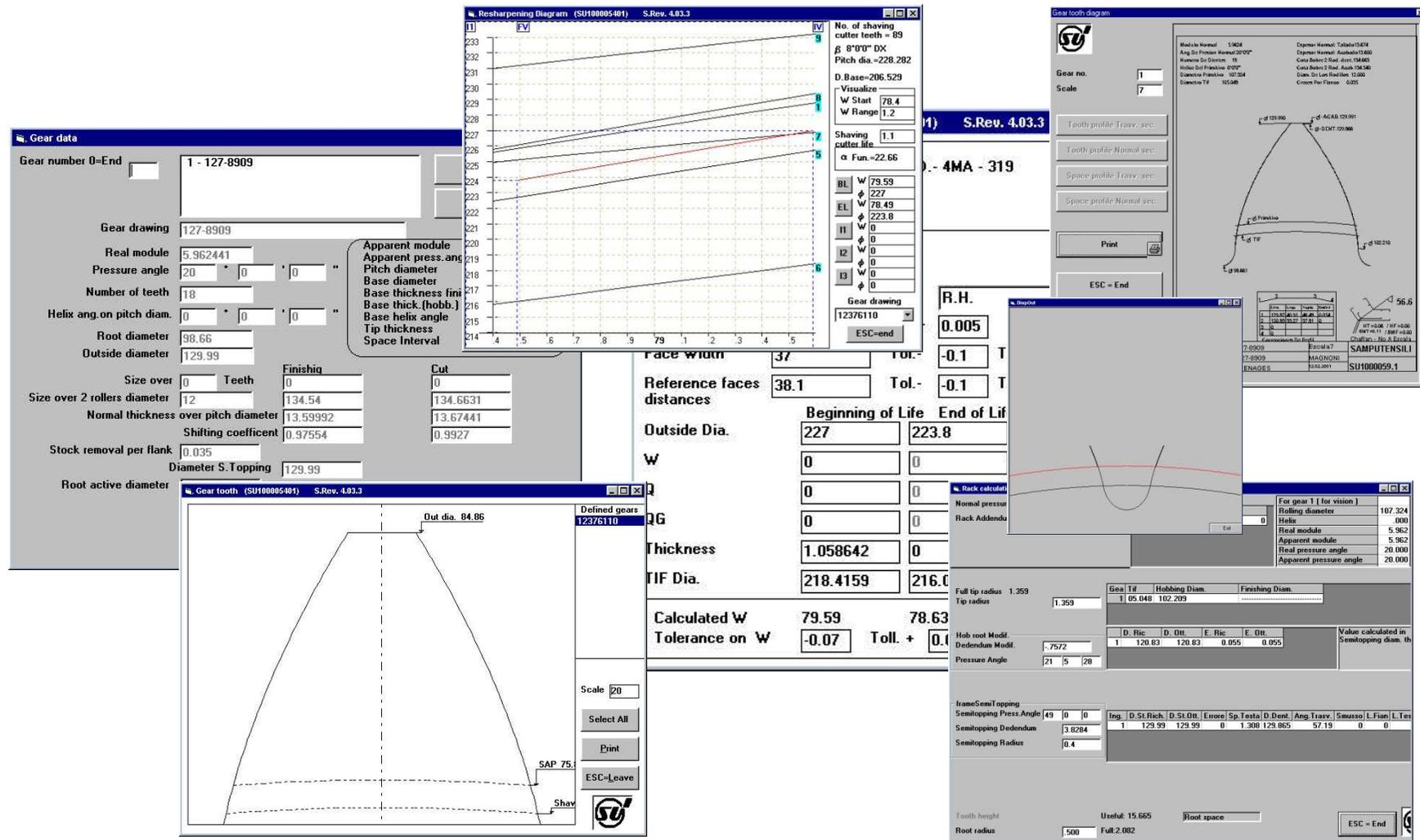
Área construída	3500 m2
escritórios	400 m2
Centro de revestimentos	500 m2
Centro de serviços	300 m2
funcionários	89

Qualidade em Primeiro Lugar

- matéria-prima: aços rápidos sinterizados (ex: S390 – Boehler)
- processo de fabricação controlado (ISO 9001-2000)
- certificado de qualidade individual



Software Específico para Projetos de Ferramentas



The screenshot displays the Star SU software interface for gear design and tool sharpening. It includes several windows and data panels:

- Gear data:**
 - Gear number 0=End: 1 - 127-8909
 - Gear drawing: 127-8909
 - Real module: 5.962441
 - Pressure angle: 20°
 - Number of teeth: 18
 - Root diameter: 98.66
 - Outside diameter: 129.99
 - Size over 2 rollers diameter: 12
 - Normal thickness over pitch diameter: 13.59992
 - Stock removal per flank: 0.035
 - Root active diameter: 129.99
- Resharpening Diagram (SU100005401):**
 - No. of shaving cutter teeth = 89
 - β 8°00' DX
 - Pitch dia. = 228.202
 - D. Base = 206.529
 - Visualize: W Start 78.4, W Range 1.2
 - Shaving cutter life: 1.1
 - α Fun. = 22.66
 - BL W 79.59, φ 227
 - EL W 78.49, φ 223.8
 - II W 0, φ 0
 - I2 W 0, φ 0
 - I3 W 0, φ 0
 - Gear drawing: 12376110
- Gear tooth diagram:**
 - Modulo Normal: 5.9624
 - Ang. do Perfil Normal: 20°00'
 - Numero de Dentes: 18
 - Indice do Perfil: 0.000
 - Excentro Perfilado: 107.524
 - Excentro Tr: 10.000
 - Coeficiente Normal: 1.261617474
 - Coeficiente Normal: Acabado 13.800
 - Cota Base 2 Real: 0.000, 14.860
 - Cota Base 2 Real: Acab. 108.540
 - Diam. do Lixo Real: 10.000
 - Cota do Perfil: 0.000
- Gear tooth (SU100005401):**
 - Out dia.: 84.86
 - Defined gears: 12376110
 - Scale: 20
 - Buttons: Select All, Print, ESC=Leave
- Face width:** 37
- Reference faces distances:** 38.1
- Outside Dia.:** 227 (Beginning of Life), 223.8 (End of Life)
- W:** 0
- Thickness:** 1.058642
- TIF Dia.:** 218.4159
- Calculated W:** 79.59 (Beginning of Life), 78.63 (End of Life)
- Tolerance on W:** -0.07
- Rack addendum:** 0
- Normal pressure:** 0
- Rolling diameter:** 107.324
- Helix:** 0.000
- Real module:** 5.962
- Apparent module:** 5.962
- Real pressure angle:** 20.000
- Apparent pressure angle:** 20.000
- Tip radius:** 1.359
- Hob root Modif. Dedendum Modif.:** 1, 120.83, 120.83, 0.055, 0.055
- Pressure Angle:** 21, 5, 28
- Semitopping Dedendum:** 3.8284
- Semitopping Radius:** 0.4
- Useful:** 15.665
- Full:** 2.082

Star SU do Brasil – Divisão de Ferramentas

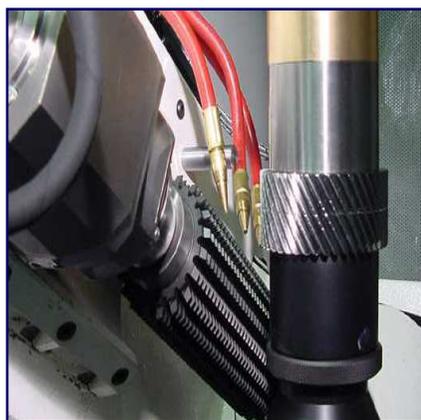
- Caracóis integrais e insertadas
- Cortadores shaper (Fellows)
- Cortadores Sccuting®
- Cortadores shaving
- Engrenagens master
- Ferramentas chanfradoras
- Ferramentas rebarbadoras
- Recalcadores
- Calibradores anel e tampão
- Barras laminadoras para estrias e roscas
- Blanks em Metal Duro
- Brocas e Alargadores Especiais
- Brocas Canhão



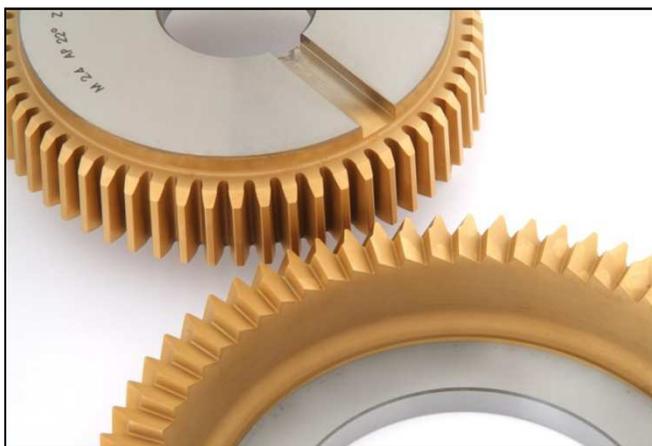
Tecnologia - Hobs



módulo 0,5 min / 16 máx.
diam.ext. 25mm. min.
200mm. máx.
precisão classe AAA DIN 3968
multilâminas
multientradas
processos para corte umido ou sêco
perfis: evolvente, angular, estrias, polias,
corrente e especiais

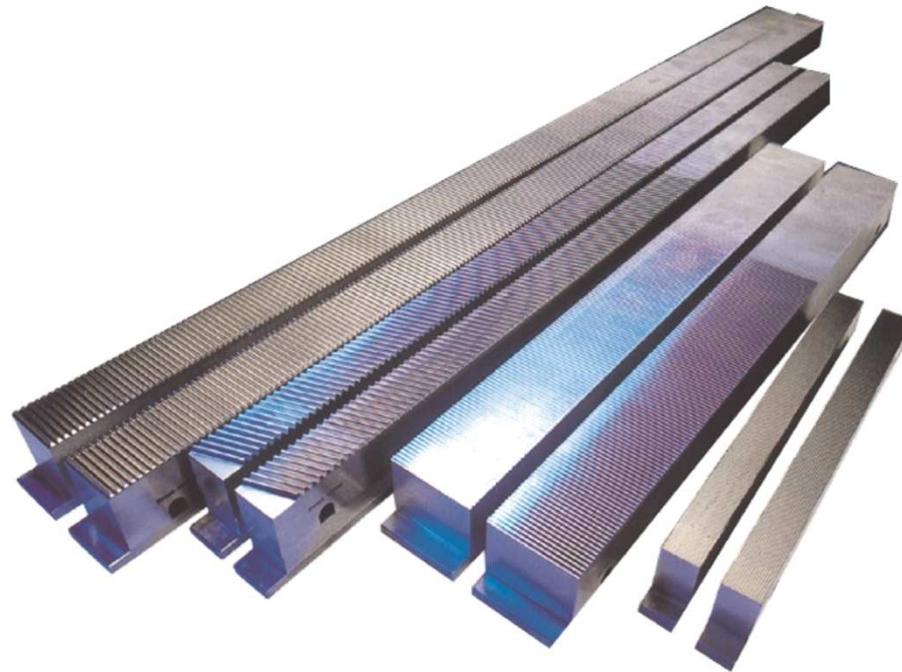


Tecnologia – Shapers (Fellows)



módulo	0,4 min / 16 máx.
diam.ext.	15mm. min. 250mm. máx.
precisão	classe AA DIN 1829
processos para corte umido ou sêco	
perfis: evolvente, angular, estrias, polias, corrente e especiais	

Tecnologia – Barras Laminadoras (Racks)



**Estrias
conicas**

estrias

rôscas

**estrias
helicoidais**

estrias

**Canal de
óleo**

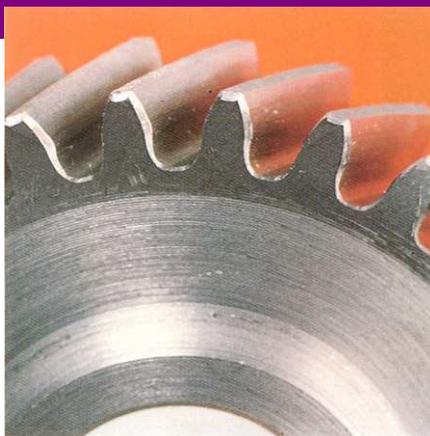
Estrias

rôscas

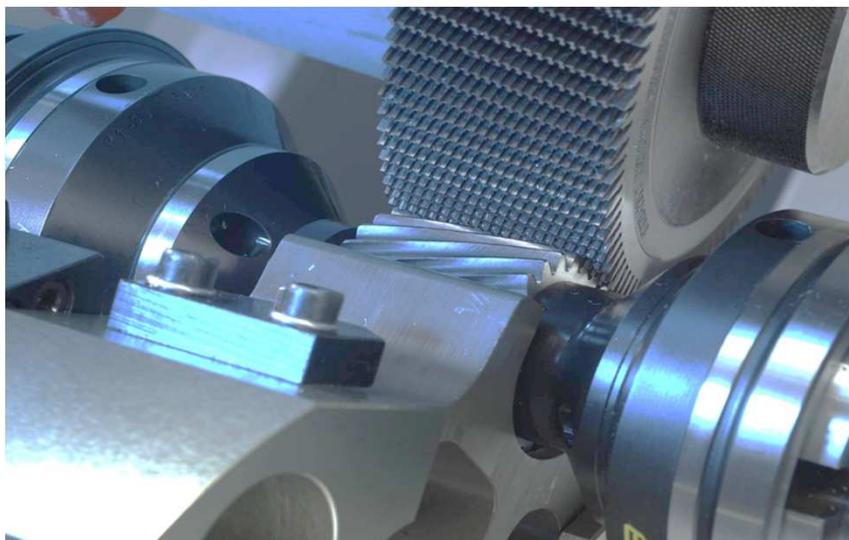
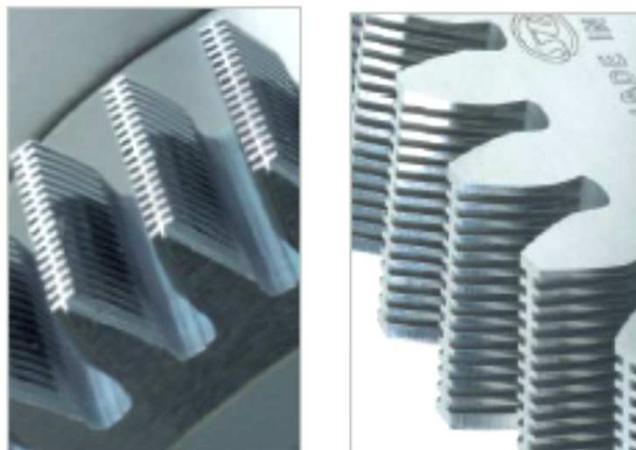


Tecnologia – Ferramentas para Chanfrar / Rebarbar

- processos combinados
- alta produtividade



Tecnologia – Cortadores Shaving



Tipos	Convencional Underpass Plunge
Faixas	Mod. 0,8 min / 9 máx. Pitch DP 2.8 - 32
Dia. ext.	75mm / 3 in min. 330mm / 13 in máx.
Larg.	70mm / 2.75 in máx.

Tecnologia – Ferramentas Insertadas para Dentes

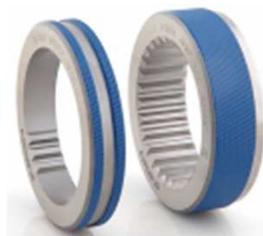
Canal de Venda Sandvik

- Disco de Corte
- Coromill 170 / 172 / 176 / 177

SANDVIK
Coromant



Tecnologia – Engrenagens Master e Calibradores Tampão e Anel



módulo	0,5 min / 8 máx.
diam.ext.	15mm. min. 200mm. máx.
precisão	classe 4 DIN 3962

Tecnologia – Brocas Canhão

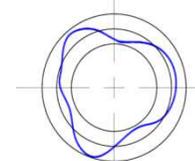


	Diámetro		Compr.
	min.	max.	
SFGD	2.00	38.10	1828*
DBLJ	5.00	38.10	1828*
DCGD	4.50	14.50	1828
TFTH	6.35	25.40	1219
BTIP	6.35	25.40	711
SCGD	1.00	9.00	265

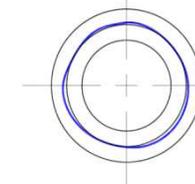
Tecnologia – Brocas e Alargadores Especiais

Vantagens:

- Operações combinadas em uma única ferramenta
- Alta precisão em circularidade e concentricidade
- Alta performance



Traditional reamer results



SRT reamer results



Tecnologia – Blanks de Metal Duro

Campos de Aplicação:

Aerospace

Firearms

Plastic Mold

Energy- wind/oil-gas

Automotive

Knives

Woodworking

Medical

Recycling

Die and Wear



HB Carbide Grade	Applications	US Industry Designation	ISO Code	Average Grain Size (microns)	Density (g/cc)	WC (%)	Co (%)	Hardness Rockwell A	Impact HRTS (psi)
HB-2	Excellent wear properties, abrasion resistant, medium grain size, general purpose grade for cutting tools, drills, endmills, and reamers for finishing and semi-finishing, and wear parts with little impact, EDM blanks, seal rings, knives	C-2	K20-K30	0.8	14.9	94	6	92.2	530,000
HB-3	Extremely hard material, high abrasion resistance, micro grain size grade, for fresh machining cutting tools, drills, endmills, reamers, and wear parts, with very little or no shock, EDM blanks, wire guides, sand blast nozzles	C-3	K05-K10	0.8	14.0	94	6	93.0	520,000
HB-110	Excellent wear properties, micro grain size grade, general purpose cutting tool grade for semi-finishing and finishing, drilling, endmills, reamers, stamping dies, punches, knives, and all types of cutting tools, will withstand slight shock, EDM blanks	C-2 C-10	K30-K40	0.8	14.5	90	10	91.7	550,000
HB-115	High wear, low to medium impact, micro grain size grade, for cutting tools, dies, knives, punches, roughing tools, will withstand slight shock, EDM blanks, crash rolls, form rolls, coining dies	C-12	K40	0.8	14	85	15	90.0	610,000
HB-512	Extremely hard material, high abrasion resistance, ultra-fine grain size grade, for fresh machining cutting tools, drills, endmills, reamers, and wear parts, with very little or no shock, EDM blanks, wire guides, sand blast nozzles	C-1 C-2	K40-K50	0.6	14.3	88	12	92.5	640,000
HB-312	Low impact, coarse grain size grade, knives, punches, will withstand slight shock	C-12		4.0	14.3	86	12	88.7	445,000
HB-315	Low impact, coarse grain size grade, rough core ribs for header dies, swaging dies, and forming applications	C-13		4.0	14.0	85	15	87.4	470,000
HB-320	Medium impact, coarse grain size grade, rough core ribs for header dies, swaging dies, draw dies, coining hammers, forming applications	C-14		4.0	13.5	80	20	85.4	405,000
HB-325	Highest impact, coarse grain size grade, rough core ribs for header dies, swaging dies, draw dies, forming applications	C-14		4.0	13.1	75	25	83.3	430,000
HB-411	Multi grain size grade, impact punches, wear parts, plastic injection molding pins	C-12		0.8 to 4.0	14.4	88.5	11.5	90.0	530,000

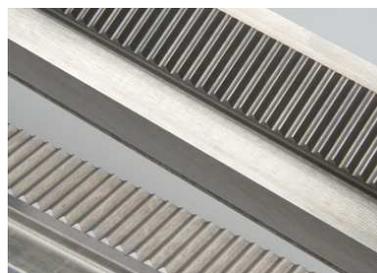
Centro Tecnológico de Revestimentos «in house» - Oerlikon Balzers



Tecnologia em revestimentos
voltada exclusivamente para
cortadores de engrenagens

Star SU do Brasil - Serviços

- Reafiação/retitanização
(caracóis e cortadores tipo fellows)
- Reafiação Cortadores Shaving
- Retífica de dentes de engrenagens
- Retífica de perfil de barras laminadoras



Centro de Serviços – Vantagens Competitivas

Assistência técnica

- Determinação da vida teórica das ferramentas
- Análise do número de peças produzidas
- Análise do desgaste
- Análise do ponto de troca

Sincronização - flexibilidade em itens urgentes

- Ajuste da demanda de acordo com a necessidade
- Logística – menor perda de tempo com transporte

Especialização - tecnologia customizada

- Processos ajustados somente para caracóis e fellows
- Embalagens exclusivas para transportes

Qualidade

- Padrões mundiais
- Alto grau de repetitividade
- Novas aplicações



Star SU do Brasil – Divisão de Máquinas

- Geradoras de engrenagens (fresadora) Modul
- Geradoras de engrenagens (entalhadora) Fellows
- Retificadoras de engrenagens Samp
- Afiadoras de shaving Samp
- Chanfradoras/rebarbadoras Modul
- Shavadoras Sicmat
- Afiadoras de caracóis e Fellows Star
- Afiadoras Universais Star
- Tornos Especiais VDF Boehringer
- Tornos Verticais Hessapp
- Centros de Usinagem Hüller Hille Diedesheim
- Máquinas Modulares Witzig & Frank



VDF BOEHRINGER



HESSAPP

WITZIG & FRANK





Contatos



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