



LINSINGER

Austria

SAWING TECHNOLOGY

MILLING TECHNOLOGY

RAIL TECHNOLOGY

TOOL TECHNOLOGY



www.linsinger.com

LINSINGER Milling, Sawing and Rail Technology divisions have advanced to become world leaders in their fields. **LINSINGER** exports worldwide from Austria in Europe, where over 300 staff are based at the head office and factory. Deliveries to the American continent are growing, alongside the well established markets in Asia and Europe.

LINSINGER's world leading role is founded on more than 6 decades of technical expertise, and based on research and development partnerships with a wide range of leading customers. These partnerships have enabled **LINSINGER** to further assert a leading position in the face of global challenges.



Hans Knoll
CEO

„Always on Top...“. **LINSINGER**'s company motto provides a vision to channel the company's 3 aspirations:

1. LINSINGER focuses on its customers.

Total satisfaction of customer requirements is the winning formula. **LINSINGER** specialists offer long term cooperation with customers to develop leading edge technologies for significant improvements and a competitive advantage. **LINSINGER** service engineers and tooling specialists are available for on-site application consultation throughout the life of a machine.

2. LINSINGER employees are the power of the company.

LINSINGER offer their dedicated employees a rich framework for personal growth and fulfillment to master today's ever more demanding challenges. The company supports long term development of both professional and personal skills for creative freedom to discover innovative solutions.

3. LINSINGER relies on local sourcing.

Thanks to consistent "in-sourcing" in local and in-house manufacturing, **LINSINGER** is able to pass on the benefits of local quality, reliability and flexibility at competitive prices to customers.

A handwritten signature in blue ink, which appears to read "Hans Knoll".



Sawing technology

Page 4 -11



Milling technology

Page 12-19



Rail technology

Page 20 -24

CARBIDE CIRCULAR SAWING MACHINES FOR STEEL PROCESSING

- **Vertical circular sawing machines KSA**
 - Steel billets
 - Tubes
 - Profiles
- **Inclined bed circular sawing machines KSS**
 - Steel billets
 - Tubes
- **Circular sawing machines KSA D for double cut**
 - Steel billets in double cut
- **Circular sawing machines KSA L for billets in layers**
 - Billets in layer

CARBIDE CIRCULAR SAWING MACHINES FOR NON-FERROUS METAL PROCESSING

- **Non-ferrous carbide circular sawing machines KSA, KSS, PSA NA**
 - Slabs
 - Billets

TUBE PROCESSING

- **Carbide circular sawing machines for tube layers KSA L**
 - Tube layers
- **Tube cut-off machines RTM**
 - Tubes
- **Travelling and stationary tube cut-off machines Multi-Cut MC**
 - Tubes

STRIP EDGE MILLING MACHINES BFMK

- Longitudinal tube mills ERW
- Spiral tubes
- Copper strips

PLATE EDGE MILLING MACHINES PFM

- Shipbuilding
- Tank and wind tower construction
- Tube mills

PIPE BEVELLING MACHINES RFM

- Pipe mills

SPECIAL PURPOSE MILLING MACHINES FOR TUBE MILLS

- **Strip cross cutting machines SCCM**
 - Coil ends
- **Plate edge milling machines PCCM**
 - Plate ends

SPECIAL PURPOSE MILLING MACHINES FOR SHIPYARDS

- **Ball tank segment milling machines**
 - LNG-tanks
- **Submarine hatch milling machines**
 - Submarine

STATIONARY RAIL TECHNOLOGY

- **Rail sawing and drilling machines LSB**
- **Rail head milling machines SKF**

MOBILE RAIL TECHNOLOGY

- **Rail-milling train SF03-FFS, SF06-FFS Plus**
 - High speed lines
- **Rail-milling train SF02T-FS**
 - Metro
- **Rail-road-truck SF02-FS**
 - Flexibility
- **Rail service**

Tool technology

Page 25

Carbide-saw blades, LINCUT® disc miller, tube cutter head, cutter heads, sandwich miller, bevelling tools, grinding wheels, special drillers



Tube mills



Forging mills



Railway



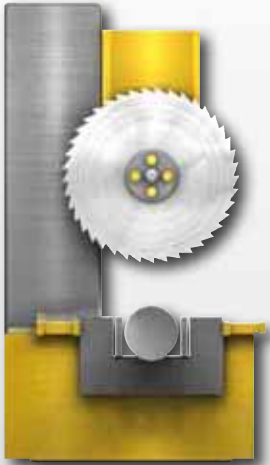
Automobile industry



Ship building industry



Non-ferrous steel mills



Carbide vertical circular sawing machines KSA for steel billets, tubes and profiles

Applications:

Forging mills, steel mills, tube mills, automobile component manufacturers

Advantages:

- Designed for reliable 3-shift operation
- Smooth cut surface, crack-free, rectangular cut
- Cold cut with unaltered grain structure (no surface hardening or heat affected zone)
- Fluid-free, dry cutting process
- Suitable for use with LINCUT® disc miller



**Cutting time:
60 seconds**

KSA 1010,
solid material Ck45,
Ø 330 mm

type	saw blade Ø	max. material Ø	max. material ▢
KSA 500	500 mm	145 mm	120 mm
KSA 710	710 mm	200 mm	180 mm
KSA 800	800 mm	260 mm	240 mm
KSA 1010	1010 mm	350 mm	300 mm
KSA 1250	1250 mm	420 mm	380 mm
KSA 1600	1600 mm	550 mm	500 mm
KSA 1900	1900 mm	650 mm	600 mm
KSA 2400	2400 mm	850 mm	780 mm
KSA 3000	3000 mm	1060 mm	970 mm



KSA 500



KSA 1010



KSA 1060



Carbide inclined bed circular sawing machines KSS for steel billets and tubes

Applications:

Forging mills, rail wheel production, tube mills, steel mills, automobile component manufacturers

Advantages:

- Combined benefits of the horizontal and vertical saws
- Extra secure clamping, even with bent billets
- Also suitable for the LINCUT® disc miller
- Chip flow downwards
- Especially suitable for large material cross sections
- Designed for reliable 3-shift operation



Cost per cut < 2 Euro
KSS 1250,
solid material Ck45,
Ø 380 mm

type	saw blade Ø	max. material Ø	max. material \square
KSS 630	630 mm	160 mm	160 mm
KSS 800	800 mm	260 mm	240 mm
KSS 1010	1010 mm	350 mm	300 mm
KSS 1250	1250 mm	420 mm	380 mm
KSS 1600	1600 mm	550 mm	500 mm
KSS 1900	1900 mm	650 mm	600 mm
KSS 2400	2400 mm	850 mm	780 mm
KSS 3000	3000 mm	1060 mm	970 mm



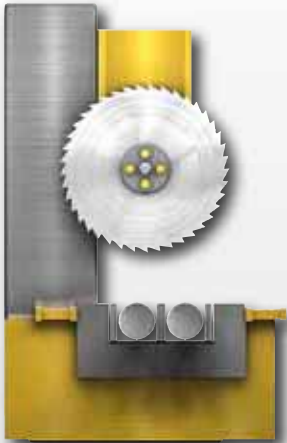
KSS 800



KSS 1250



KSS 1600



**Carbide circular sawing machines KSA 500 D
for steel billets in double and fourfold cut**

**Cutting time:
8 seconds
per billet**

KSA 500 D, 2 pcs.
Ø 80 mm, Ck 45

Applications:

Forging mills, steel mills, automobile component manufacturers

Advantages:

- Double cut = almost double sawing capacity and low space demand
- Smooth cut surface, crack-free, rectangular cut
- Cold cut with unaltered grain structure (no surface hardening or heat affected zone)
- Designed for reliable 3-shift operation
- Fluid-free, dry cutting process

type	saw blade Ø	max. work piece Ø
KSA 500 D	570 mm	Fourfold cut 45 mm
		Double cut 90 mm
		Single cut 145 mm

**Simultaneous
sawing of
multiple billets**

e.g.: KSA 1010 L,
6 pcs., Ø 76 mm, C455



**Carbide circular sawing machines KSA 1010 L
for billets in layers**

Applications:

Steel mills

Advantages:

- Very short cutting times per billet
- Huge savings in handling systems
- Suitable for ground and polished billets

type	saw blade Ø	max. layer width
KSA 1010 L	1010 mm	480 mm



KSA 500 D



KSA 500 D



KSA 1010 L



Carbide circular sawing machines KSA ... L for tube layers

Applications:

Precision tube mills, seamless tube mills

Advantages:

- Burr-free, marketable cuts
- Very short cutting times per tube
- Huge savings in handling and space requirement
- Crack-free, tension-free cut surface
- Lower tool costs



**Cutting time:
10 seconds
per tube**

KSA 1600 L, 5 pcs.,
Ø 210 x 8,9 mm, St 52

type	saw blade Ø	max. layer width
KSA 800 L	800 mm	400 mm
KSA 1010 L	1010 mm	650 mm
KSA 1250 L	1250 mm	850 mm
KSA 1600 L	1600 mm	1050 mm
KSA 1900 L	1900 mm	1280 mm
KSA 2400 L	2400 mm	1600 mm
KSA 3000 L	3000 mm	2000 mm



KSA 1010 L



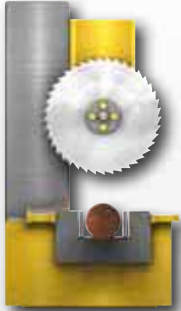
KSA 1400 L



KSA 1600 L



KSA ... Cu



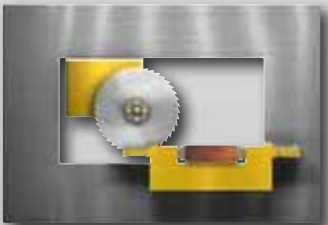
KSA ... Cu



KSS ... Cu



PSA ... Cu



Carbide circular sawing machines KSA, KSS, PSA for non-ferrous metal slabs and billets

Applications:

Non-ferrous smelter

Advantages:

- Especially suited for large slab cross sections
- Aligned cutting eliminates saw blade jamming
- Short cutting times
- Designed for reliable 3-shift operation
- Sorted, recyclable chips



**Cutting time:
1,6 minutes**

1250 x 260 mm,
DHP-Cu

type	saw blade Ø	max. work piece
KSA 710 Cu	710 mm	Ø 230 mm
KSA 1010 Cu	1010 mm	Ø 345 mm
KSA 1250 Cu	1250 mm	Ø 420 mm
		850 x 250 mm
KSA 1600 Cu	1600 mm	Ø 550 mm
		1250 x 250 mm
KSS 1250 Cu	1250 mm	Ø 420 mm
PSA 1600 Cu	1600 mm	1300 x 300 mm



KSA 710 Cu



KSS 1250 Cu



KSA 1250 Cu



Tube cut-off machines RTM for tubes

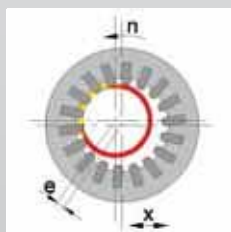
Applications:

Seamless tube mills, coupling production

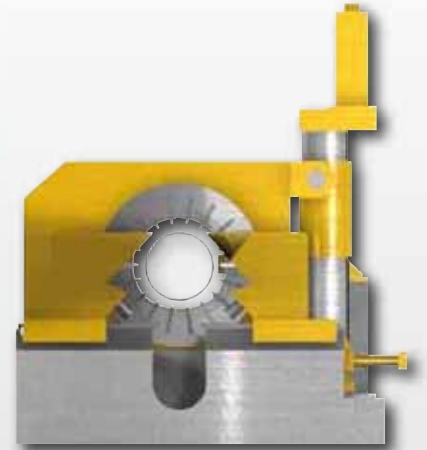
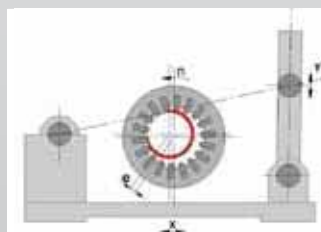
Advantages:

- Accurate cutting angle
- Smooth cutting surface
- Burr-free cuts
- No chips in the tube
- Narrow cutting width
- Carbide inserts for quick and easy tool change

Tube mills are demanding ever greater cutting angle precision and surface accuracy. The eccentric tube cut-off system used by the RTM satisfies the highest requirements.



The eccentric cutting movement is generated by the combination of the x and y axis movements



Tooling costs 55% lower than saw blades
Cutting time: 24 seconds, Ø 406 x 10,3 mm



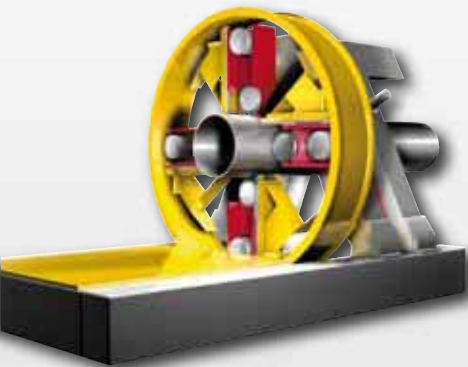
RTM 420



Cutting tool



RTM 420



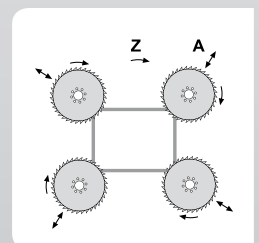
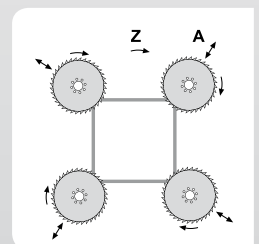
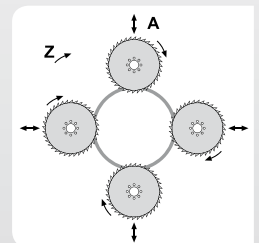
Travelling tube cut-off machines Multi-Cut for tubes

Applications:

Longitudinal tube mills ERW

Advantages:

- Travels with the pipe line
- Very short cutting times for high speed lines
- Long tool life
- Burr-free cut
- Lowest tooling costs of all **LINSINGER** cutting systems
- High availability strategy pending maintenance (cutting with fewer units)
- Dry or wet cut possible



**Cutting time:
11 seconds**
Tube: 600 x 200 x
12 mm, X70

Any tube profiles



MC 4/610 CNC



MC 4/610 CNC



MC 4/610 CNC



Stationary tube cut-off machines Multi-Cut for tubes

Applications:

Seamless tube mills, coupling production, tube cutting

Advantages:

- Very short cutting times
- Lowest cost cutting system from **LINSINGER**
- Burr-free marketable cut
- High availability strategy pending maintenance (cutting with fewer units)
- Automated cut-off part removal with robot
- Automated tool change time 30s per saw blade



Cutting time per tube
9,9 seconds

Tube Ø 244 x
13,5 mm, P110



MC3/406



Cut-off part removal



Saw blade change