



## MET-TECH | Product Data Sheet

### COPPER SEAMLESS TUBE PRODUCTION LINE - BILLET DIA. 80-120 MM - MIN. T

**Ref. No.:** TUBELINECU170701

**Year:** 1974-2005

**Brand:** INNSE, SMS, MDM, LOI, SCHUMAG, MRB ETC.

Qty. 1 Second-hand copper seamless tube production line

**Mfc.:** INNSE, SMS (Mannesmann Demag-Meer), LOI, Hacker, Schumag, Lühr, Fimbimatic, MRB

**Built:** 1974 ? 2005

**Entry Material:** Billet sizes

**Billet weight:** approx. 500 kg Billet temperature

**Exit Material - Tube sizes of each step of process:**

**Piercing mill:** Dia. 115 mm Wall thickness

**Pilger mill:** Dia. 58 mm Wall thickness

**Spinner # 1:** Dia. 6.0 mm Wall thickness

**Spinner # 2:** Dia. 6.0 mm Wall thickness

**Spinner # 3:** Dia. 6.0 mm Wall thickness

**Spinner # 4:** Dia. 6.0 mm Wall thickness

**Drawing machine:** Dia. 0.6 ? 267 mm Wall thickness

**Scope of supply:** Billet Furnace Exhaust Air System Billet Brushing Machine

Cold Circular Saw Rotary Piercing Mill Straightening Machine Pilger Mill Emulsion Plant Central Lubrication System Tube Transportation System Spinner # 1 Spinner # 2 Spinner # 3 Spinner # 4 Induction Annealing Line Drawing Machine Degreasing Unit Basket Magazine Basket Lifting Device Tube Transport Baskets Spare Parts

Technical Specification

**Billet Furnace Mfc.:** LOI Built

**Max. Temperature:** ? Heated by gas No. of zones

Charging & discharging device Electrical Cubicle

**Exhaust Air System Mfc.:** LOI Built

**Roller table with billet brushing machine Mfc.:** LOI Built

**Cold Circular Saw - Station Mfc.:** ? Built

New electrical & mechanic parts in 1978 New adjustable bumper in 1997

**Speed:** ? Blade dia.

**Rotary Piercing Mill Mfc.:** INNSE Built

**Standard version:** Min/Max. billet; dia. x length

**Billet length:** min / max 7000 / 14000 mm ?? Feeding system

**Roller application angle:** 5 - 9 ° Roller speed (min/max)

Additional Transverse transport unit Tube transportation system to the piercing mill

**Main motor Max. power:** 2 x DC 700 kW, 1000 RPM

**Dimensions of pressure rollers:** (diameter x width) 116 - 145 x 450 mm

**Dimensions of pressure rollers:** (dia. x W) 650 x 500 mm

**Roller material (material No. ): 1.2343**

**Core material of the pressure rollers:** 1.2343 Hardness of the outer alloy

**Mandrel diameter:** 86 mm Mandrel material

Mandrel adjustments by motor

**Service life:** (rel. to km of bloom) Rollers 24.2 Mandrel 3.6 Pressure roller 36.3 ????

**Use of the system:** (hours per week 1992) 120

**Time needed to change the tools:** 150 min.

**Time needed to change the mandrels:** 2 min.

**Time needed to change pressure rollers:** 30 min.

**Incoming billets Dia. x L:** 115 x 5400 mm Weight

**Outgoing billets Dia. x width x length:** 115 x 13 x 12500 mm

**Roller speed:** 70 ? 90 RPM Max. performance

**Roller application angle:** ( ° ) 7 Degree of deformation

**Machine availability:** ( % ) 82 Rotary crane ? Load

Electrical Control System PLC ??? Bridge crane

Cooling water filter system Transformer Primary ? Secondary V, ? kVA

Hydraulic turning table Exit roller table

**Straightening Machine Mfc.:** Built

Entry and exit roller table

**Pilger Mill Mfc.:** SMS (MDM) Built

**Type:** Cold pilger mill 3 x 115 VMR

**Feeding system:** Continuous Chain transportation system

**Strokes:** (max/actual) 90 / 85 per min.

**Feed rate:** 15.8 / 14.1 mm/stroke Filter

**Shell length:** max/min. 14000/8000 mm Shell dia.

**Shell weight:** 500 kg

**Exit material:**

**Tube dia.:** OD/ID 58 / 53.2 mm Tube length

**Max. tube eccentricity:** (%)  $\pm 2$

Main motor Max. power 950 kW, 800 RPM, DC

**Calibrating roller manufacturer:** Kind+Co / Century

**Rolling Calibrating roller (diameter x width):** 610 x 220 mm

**Tools Calibrating roller material (material No.):** TQ1 / 1.2344

**Calibrating roller hardness:** (HRc) > 52

**Service life of calibrating roller (rel. to km of pilger pipe) Material Cu:**

Approx. 350 ? 2000 ???

**Mandrels:** Material 1.2363 Chrome plated? Yes - thickness 0.003 mm

**Hardness:** (HRc) 54 - 56

**Time to change the calibrating roller:** 3.5 h Time to change the mandrels

**Degree of deformation:** (%) 100 Machine availability

Electrical Control Control station PLC ???

Noise protection cover Tube guiding system ? pilger tunnel

Turning device pilger tools Mandrel support

**Emulsion Plant Mfc.:** ? Built

**Capacity:** ?

**Central Lubrication System Mfc.:** Delimon Built

**Type:** ? Capacity

**Tube Transportation System Mfc.:** Built

**Length:** ? Ejection unit

Second-hand pre-draw spinner block MR1

**Manufacturer:** Marshall Richard (MR) Year of mfc./assembly

**Modifications:** 1998 controls & 2003 drum

**Standard version:** VN CB 84 Direction of rotation (from above)

**Block diameter:** 2134 mm Max. tube inlet dia., ext. dia. x wall thick.

**Min. tube outlet dia. ext. dia. x wall thick.:** 6 x 1 mm Max. pulling force

**Max. pulling speed:** 750 m/min.

**Dancers with automatic speed regulation Type:** Ultrasound

**Pressure rollers (set x number per set):** 3 x 2 No. of baskets in circulation

**Discharge/mounting table. max. load cap.:** approx. 1500 kg

**Tool material:** Tungsten carbide External lubricator

**Mandrel material:** Tungsten carbide Main motor Max. power

**Discharge Table Motor Max. power:** DC 30 kW, 1750 RPM

**Mounting table Motor Max. power:** DC 30 kW, 1750 RPM

**Coil weight:** 500 kg Time needed to change the tools

**Machine availability:** ( % ) 79.8 Roller table - 2011

**Electrical Control Mfc.:** ? PLC Control supplier

Pointing station (new hydraulic & el. control ? 2013) Pulling carriage ? 1985

Pre-straightener ? 1980 Basket lifting device

Transformer

Second-hand spinner block MR2

**Manufacturer:** MR Year of mfc.

**Modification in 1998 Control system Standard version:** VN CB 84

**Direction of rotation (from above):** right (clockwise) Block diameter

**Max. tube inlet dia., ext. dia. x wall thick.:** 58 x 2.4 mm

**Min. tube outlet dia. ext. dia. x wall thick.:** 6 x 1 mm Max. pulling force

**Max. pulling speed:** 1000 m/min. No Relaxation device for cutting

**Dancers with automatic speed regulation Type:** Ultrasound

**Pressure rollers (set x number per set):** 1 x 2 3 x 1

**Number of baskets in circulation:** 7

**Discharge/mounting table, max. load cap.:** Approx. 1500 kg

**Tool material:** Tungsten carbide External lubricator

**Mandrel material:** Tungsten carbide Main motor Max. power

**Discharge table Max. power:** DC 30 kW, 1750 RPM

**Mounting table Max. power:** DC 30 kW, 1750 RPM

**Use of the system (hours per week) 144 Coil weight:** 500 kg

**Time needed to change the tools (min):** 0.5 Machine availability

El. Control ? 1975 Lubrication system ? 1980

Pulling carriage ? 1985 Rotary crane

Hydr. tube pointing machine ? 1992 Basket feeding device ? 1979

Transformer

Second-hand spinner block MR3

**Manufacturer:** MR Year of mfc.

**Modification in 1999 Control system Standard version:** VN CB 84

**Direction of rotation (from above):** right (clockwise) Block dia.

**Indicator Max. tube inlet dia., ext. d. x wall thick.:** 29 x 1.45 mm

**Min. tube outlet dia., ext. d. x wall thick.:** 6 x 1 mm Max. pulling force

**Max. pulling speed:** 1120 m/min. No Relaxation device for cutting

**Dancers with automatic speed regulation Type:** Ultrasound

**Pressure rollers (set x number per set):** 1 x 2 2 x 1

**Number of baskets in circulation:** 13

**Discharge/mounting table, max. load cap.:** Approx. 1500 kg

**Tool material:** Tungsten carbide External lubricator  
**Mandrel material:** Tungsten carbide Main motor Max. power  
**Discharge table Max. power:** DC 30 kW, 1750 RPM  
**Mounting table Max. power:** DC 30 kW, 1750 RPM  
**Use of the system (hours per week):** 144 Coil weight  
**Time needed to change the tools (min):** 0.5 Machine availability  
Hydr. tube pointing press ? 2009 Pulling carriage ? 1985  
**Electrical control ? 2001 Mfc. ? Type: ?**  
Rotary crane Lubrication system ? 1994 Transformer  
New basket circulating system ? 2007  
Second-hand spinner block MR4  
**Manufacturer:** MR Year of manufacturing  
**Standard version:** VN CB 84 Direction of rotation (from above)  
**Block diameter:** 2134 mm  
**Indicator Max. tube inlet dia., ext. dia. x wall thick.:** 45 x 2.1 mm  
**Min. tube outlet dia. ext. dia. x wall thick.:** 6 x 1 mm Max. pulling force  
**Max. pulling speed:** 900 m/min.  
Dancers with automatic speed regulation Type Ultrasound  
**Pressure rollers (set x number per set):** 3 x 2  
**Number of baskets in circulation:** 7  
**Discharge/mounting table. max. load cap.:** Approx. 1500 kg  
**Tool material:** Tungsten carbide External lubricator  
**Mandrel material:** Tungsten carbide Main motor Max. power  
**Discharge table Max. power:** DC 30 kW, 1750 RPM  
**Mounting table motor Max. power:** DC 30 kW, 1750 RPM Coil weight  
**Time needed to change the tools (min):** 0.5 Machine availability  
**Tube pointing machine Mfc.:** ASMAG Type  
Pulling drum ? 1990 Pulling die holder ? 1990 Rotary crane ? 2001  
Lubrication system ? 1996  
Induction Annealing Line  
**Mfc.:** Built  
De-coiler Dancer Straightening machine  
Marking unit Annealing furnace Oil transformer Extraction system (oil vapour)  
Electrical Control ? 2008 Guiding rolls  
Qty. 2 Induction coils ? spare ? 2010  
Drawing Line F4  
**Mfc.:** Schumag Type  
**Flying shear Mfc.:** Hacker Type

**Roll cross Mfc.:** Hacker Built

Tube pointing machine Straightening machine ? horizontal-vertical Blow-out device

**Exhaust system Mfc.:** Lühr Type

Perchloroethylene Degreasing Unit

**Manufacturer:** Fimbimatic Year of manufacturing

**Features:** Activated carbon Vacuum pumps Distillation Tank system

Refrigerating plant Working chamber

**Max. coil weight:** (t) 2.5 Max. coil diameter

**Min. pipe diameter:** (mm) 12 Max. pipe diameter

**Min. pipe length:** (m) 3 Max. pipe length

**Cycle time Approx.:** 30 min Operating voltage

**Connected power:** 180 kW, 185 A Amount of solvent

Working ? degreasing chamber ? 2011 Electrical Control

**Steam generator in Container Mfc.:** Hada Type

Heating coil for steam generator ? spare - 2007

Basket Transport System

Qty. 250 Tube transport baskets - 1983 Qty. 35 Tube support devices ? 1986

Basket storage area ? roller table ? 1980 Basket lifting device ? 2007

Spare Parts

For all above specified equipment there are a lot of maintenance parts and spare parts

available i.e. crank shaft for pilger mill ? 2000 etc.

Please advise if further information is requested.