



Tuner roll controlled straight-line wire drawing machine KGT



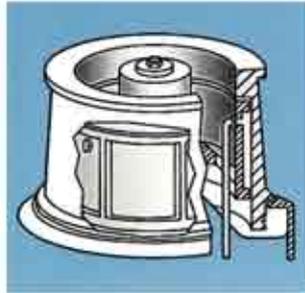
Dry drawing machines

### Tuner roll control



- Very flexible - same control system from wire dia. 0,2 to 16 mm at all drawing speeds
- Avoids uncontrolled back-pull
- Self-regulating and -correcting
- Easy to string-up
- Fewer moving parts
- Low maintenance

### Capstan cooling system



- Optimum cooling effect which increases with the speed
- Self-cleaning, maintains consistent cooling over time
- Can use coarse filtered industrial water in wide temperature range, up to 35 °C
- No rotating seals

### Pneumatic, high speed brake system



- Normal stop: under ramp down control within 15-30 sec.
- Quick stop (wire break): brakes under control, stop in 3-5 sec. without additional wire breaks
- Emergency stop: machine in 1 sec., spooler/coiler in 1-3 sec.

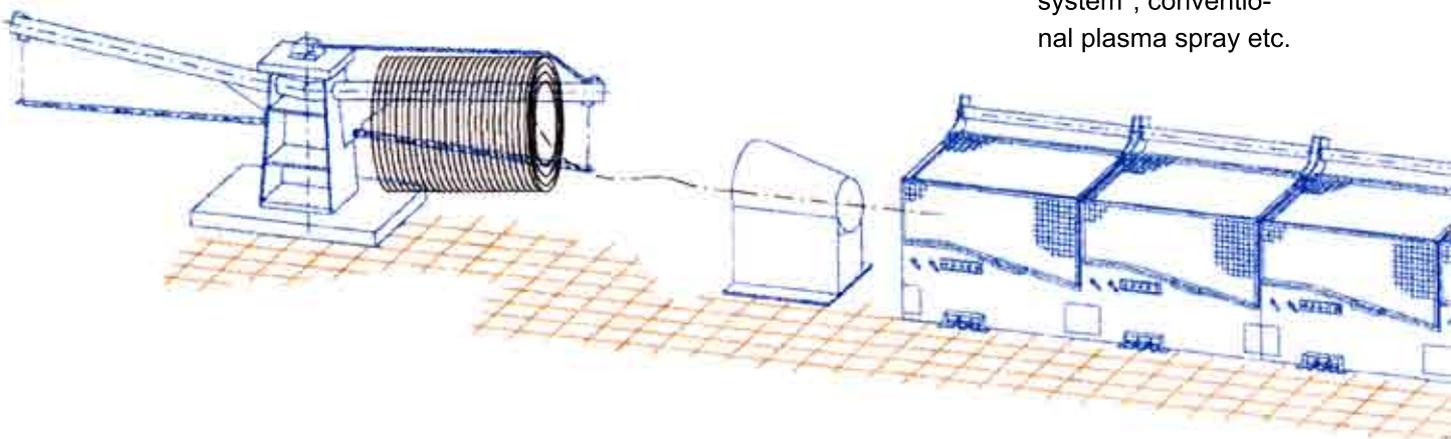
### soap box and die holder



- Special design of die box, with scale, for fine setting of cast and helix
- Opening for vacuum hose at every die
- Vibration dampening devices at high speed blocks

### Drawing capstan

- Various block coating systems available, depending on the wire material to be drawn
- Includes coatings e.g. ceramic, CDS "continuous detonation system", conventional plasma spray etc.



### Computer drawing system CDS



- Third generation computer system (more than 500 computer controlled KOCH machines in operation)
- Continuous color, graphic display of important operating data such as speed, die status and spool/coil status
- Operator friendly interface for all machine operational and control functions
- Easy trouble shooting
- Interface for data acquisition
- Upward compatible - easy future upgrades through software

### Frequency controlled A.C.-drive



- Transistor controlled A.C./A.C. converter
- Controlled by means of the pulse width modulation system (P.W.M.)
- Constant power factor (cos.phi) of better than 0,95 at all speeds and load conditions
- Digital and micro-processor controlled
- No need of compensation and low harmonic feedback to the net
- Readout display
- Interfacing for data acquisition

### Digital bus system



- One communication cable replaces hundreds of control wires
- Significant saving of cost and time in the installation of the machine
- Simpler wiring system reduces problems and simplifies trouble shooting
- Allows data acquisition and remote trouble shooting of the control system and drives

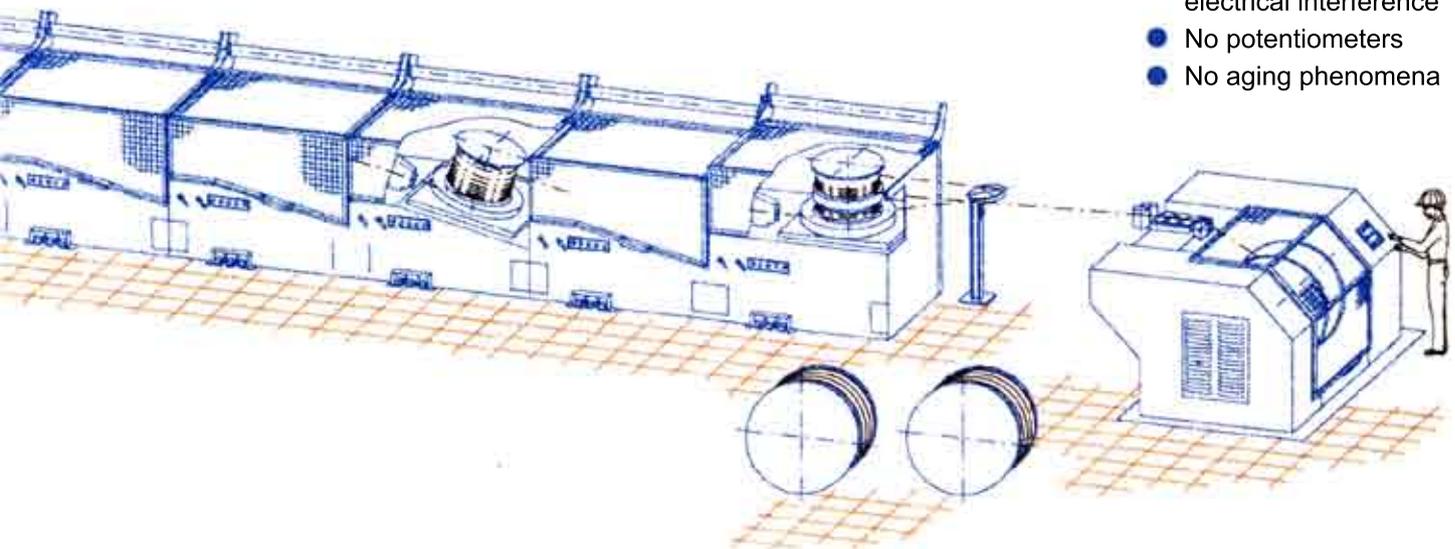
### Diagnostic system



- Most details system analysis through bus system, down to drive details
- Remote connection through modem allows on-line trouble shooting by KOCH engineers
- Easy software update by teleservice

### Digital speed control system

- Unique KOCH technology, highly reliable
- Utmost control flexibility, allows any drafting program and block skipping
- Not affected by outside factors such as temperature and electrical interference
- No potentiometers
- No aging phenomena



# TUNERLINE



## Tunerline brings economic advantages

- Better productivity due to higher drawing speeds in normal production
- High degree of reliability - low downtime
- Much better finish wire quality due to a gentler handling of the wire during the drawing process (less wire deviations, no torsion etc.) as well as an optimised wire cooling
- Easy operation
- Better environmental conditions due to increased dust protection, air cooling required only for large diameter high carbon wires
- Greater flexibility and lower current consumption due to modern drive technology
- Lower noise level compared to older type machine

## The tuner roll controlled straight-line wire drawing machine KGT



### Special features

- Tuner roll control
- "KOCH patented" capstan cooling system
- Pneumatic, high speed brake system
- Soap box and die holder
- Computer drawing system CDS
- Frequency controlled A.C.-drive
- Digital bus system
- Diagnostic system
- Digital speed control system

### Optional features

- Foot pedals for inching operation
- First block in combination tuner roll/OTO design
- Last block designed as finishing capstan
- Rotary die holder for specific resp. all blocks
- Quick die change cassettes
- Pressure die systems
- Soap boxes with stirrers
- Environmental guarding system
- Special cast killing systems for speciality products, egg. bead wire
- Cooling water flow/temperature control units



Drive side of the machine

**Technical Data (for reference)**

model series "KGT"	12	16	20	25	28	32	36	40	47
capstan-Ø in mm	350/300 250/200	400	500	630	710	800	900	1.000	1.200
nominal pulling force in N	4.000	6.000	10.000	16.000	25.000	40.000	60.000	75.000	90.000
oversized OTO block (block 1) capstan-Ø in mm	400	500	630	710	760	-	-	-	-
nominal pulling force in N	6.000	10.000	16.000	25.000	40.000	-	-	-	-
max. wire inlet-Ø in mm C = 0,80 %	2,5	3	5,5	6,5	8	12	14	16	16
max. wire inlet-Ø in mm C = 0,20 %	3	4	6,5	8	10	-	-	-	-
max. drive power in kW	15	22	37	45	75	90	110	132	160
max. drawing speed in m/s	25-40	50	45	40	35	25	15	12	15

Different executions are possible on request.

Our fully trained team - with their many years of experience and their continuous research and development in the area of machine construction - are at your disposal at all times. Our wide ranging Know-How and experience of wire products and production systems are available to our customers. Engineering

planners calculate submitted performance requirements and adapt these on the basis of our standard component programme to your individual production requirements. Detailed discussions and information right from the stage of the quotation guarantee a maximum of quality assurance and thus customer satisfaction.

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