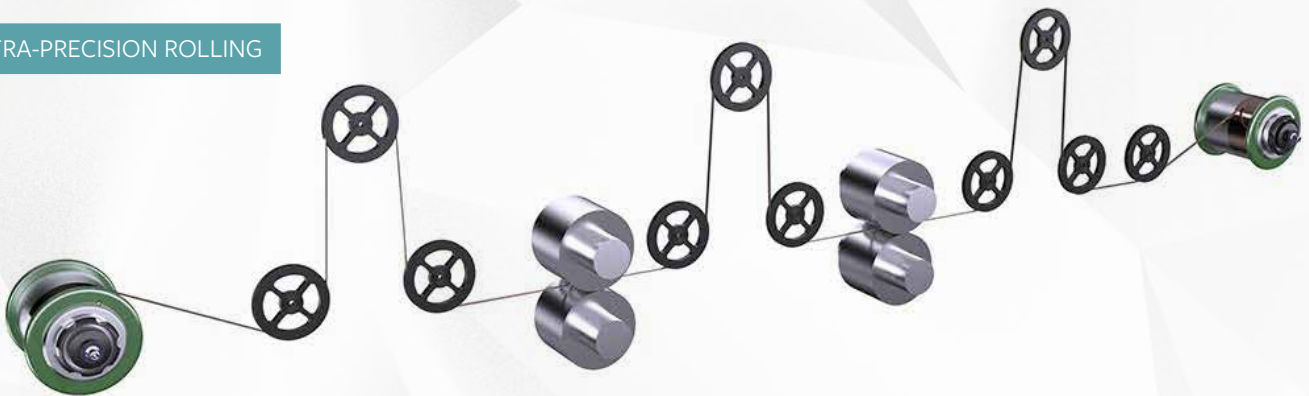


## ULTRA-PRECISION ROLLING

As a manufacturer of innovative high-tech machines, HMP Rolling provides a wide range of high-precision rolling mills for producing fine and ultra-fine wires up to the highest material strengths. State-of-the-art machine technology ensures minimum downtime and maximum output. Based on our standard range, the machines are customized towards customer and material requirements.

### ULTRA-PRECISION ROLLING



In this process, round wires with very small infeed diameters are rolled flat. During the process, the thickness of the wire is reduced in several stages. Thanks to highly precise and dynamic roll adjustment, the machines achieve tolerance in the nanometre range.

CONFIGURATION:		UPW 20	UPW 45	UPW 90
Mill type				
2Hi and 4Hi Roll Set	Rolling force, spindle [kN]	20	45	90
	Rolling force, piezo [kN]	12	20	60
	Roll ring width [mm]	25	25	25
2Hi Roll Set	Roll diameter [mm]	40; 60	40; 60; 80	60; 80
4Hi Roll Set	Roll diameter [mm]	40/20	50/30	50/30

## ULTRA-PRECISION ROLLING

### PROPERTIES AND FEATURES:

- Elongation reduced roll stand
- High precision screw down – Servo-Mechanic & Piezo actuator
- Mill drive as Mono and Twin drive with infinitely variable speed range
- Rolls available with tungsten shrunk-on carbide ring
- Machines available with different type of lubrication (dry, flood cooling or minimum quantity lubrication)
- High-precision roll cartridges with bearing cooling, available as 2Hi and 4Hi Roll Sets
- Temperature controlled high accuracy thickness and width measurement – contact and laser gauges
- Precise layer winding systems to satisfy the highest quality standards
- Wire tension control via electromagnetic high-precision dancer
- Inline infeed and outfeed cleaning

### SOFTWARE AND CONTROL SYSTEMS:

- Fully digital control system and diagnostics
- Pre-calculation and storage of pass schedules
- Fully automatic machine setup
- Monitoring of torques, temperature, adjustment forces and wire tensions
- Felss Edge Device – Your step into Industry 4.0
- Active thickness regulation and monitoring of width
- Trend and cascade control

### MODULAR MACHINE DESIGN:

#### Easy to maintain:

- Easy and quick roll changes
- Central lubrication system
- Predictive warning of critical machine status
- Electronic overload protection

#### Design variants:

- Flange coil technology with precise layer winding
- Number of rolling mills can be extended infinitely thanks to modular machine stand design
- High-precision servo dancer for extremely precise tension control
- Intelligent wire guidance systems for easy machine setup and process control
- Temperature management of system components

