



Wire Machinery for the Challenges of Tomorrow

Cold-rolling and stretching lines





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Future technology for the wire industry

Wire for tomorrow's world

Markets are in movement. They demand new technologies that are as flexible as possible, and they demand them fast. At KOCH, you will find solutions today to tomorrow's challenges. Wire, after all, plays an important role in every single progressive industry. It is present in the reliable production of mobility, in strong connections for architecture, and in highly sensitive medical applications.

Do you need to integrate a wire production system into your production facilities? Then you can count on us. Ernst Koch GmbH & Co. KG is one of the world's leading manufacturers of wire drawing and cold rolling systems for the iron and steel wire industry, which is able to build its own machinery. As a system supplier we plan, supply and install complete machine lines for the production of wire, lines that are designed for your particular task and implemented with all the components you need.

Welcome to KOCH

Our consultancy, products and services are of the very highest standard, and have been for more than 90 years. Customers in more than 60 countries value this long experience and our pioneering technological capabilities. Take, for example, the manufacture of concrete reinforcing wire. In this field, KOCH is a world leader in cold rolling and stretching systems incorporating fully automatic coil disposal.





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Concrete reinforcing wire – the foundation of foundations

Flying high and reaching far

Buildings of more than a hundred floors reach dizzying heights. Tunnels penetrate miles into mountains. Bridges connect different nations. But even in the most awe-inspiring of engineering works, the elementary material remains wire. It strengthens foundations and facades, yet makes them flexible to carry loads – floor by floor and yard by yard.

Carrying, stabilizing, connecting

The reinforcement wires required to strengthen concrete parts are made by rolling or stretching – a production segment in which KOCH has always made high-performance systems. The highly developed processes they employ produce concrete reinforcing wire that can stand up to the most demanding loads. In addition to the well-established cold rolling process, stretching achieves a higher tensile strength combined with the best possible elongation values.

Wire for the markets of the future

We design and produce our systems ourselves, which means they are always of a consistently high quality. They are also of a modular design, which makes space for your particular project. Descaling, rolling, stretching, spooling wire – KOCH systems integrate multiple steps into a production line of remarkable versatility.





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KOCH builds foundations

Cold rolling and stretching systems made by KOCH are designed to cope with long-term burdens on account of their extremely durable machine bodies. They produce concrete reinforcing wire that fulfils all of the standards stipulated by legislators and the building industry. Major prerequisites include chemical properties and the strength of the primary material, as well as the reduction of overall cross-sections from the rolled wire to the finished product.

Cold-formed wire can be round, oval or angular, depending on the application and regulations involved. Surfaces can be smooth or given flat or raised ribbing. A combination of rolling and stretching systems can also be set up using KOCH machinery.



Elements of successful production

Single-block drawing machines

KOCH single-block drawing machines incorporate vertical or horizontal capstans, and are extremely reliable. The capstans and the rolling systems themselves are cooled by water.

Stretching system and drive unit

In KOCH stretching systems, water-cooled bending rollers made of hardened metal are programmed to move with supreme accuracy into the position that will provide the required degree of stretch. Highly wear-resistant V-disks

in the drive unit then pull the wire through the stretching system. In combined rolling and stretching systems, an additional capstan combined with a stress relieving device can also be included.

Spoolers

KOCH's wide range of systems includes vertical and horizontal spoolers for every type of use. A vertical design enables spools to be changed fully automatically, including with optional sampling. The position of the start and finish of the wire and the direction of winding

are variable depending on model. Spool turning systems, weighing systems and binding machines supplement the spooling systems.

Strapping machine and cranes

A binding machine that can be moved on a frame can be set up in various different positions, such as at 90 or 45 degrees to the spooler, in conjunction with a portal crane. A high-performance strapping head ties up the wire coil using strong steel tape. An integrated label printer automatically affixes all of the necessary details to the coil.

Automatic cranes with integrated roller conveyor then remove the concrete reinforcing wire coils swiftly.



Machine sizes*

Designation	BWH 16	BWG 10	BWV 16	BRV 16
Possible inlet wire diameter depending on tensile strength	5.5 - 16.0 mm	5.5 - 10.0 mm	5.5 - 16.0 mm	6.0 - 16.0 mm
Possible final wire diameter depending on tensile strength	4.0 - 14.0 mm	3.0 - 8.0 mm	4.0 - 14.0 mm	
Max. possible drawing speed depending on scope of supply and working range	12 m/s	20 m/s	12 m/s	10 m/s
Optional max. weights coil or spool	3000 kg 5000 kg	3000 kg 5000 kg	3000 kg 5000 kg	3000 kg 5000 kg

* Version spring 2014. Technical data and working range to be optimized according to the project and thus can be above or below the data of this table.

System solutions, whatever the size

Complete service, from the control to the safety concept

KOCH systems perform as well as they do because we make them in-house. Monitoring all of the production steps makes us independent and ensures that our customers always enjoy the same high level of quality. Our rolling and stretching systems are augmented using high-performance peripheral modules made by our partner companies. KOCH provides a complete service

encompassing project planning and management of the entire system, and including uniform control systems and a seamless safety concept along the whole line.

Large selection of peripheral machinery

KOCH can provide you with a concrete reinforcing wire system designed to meet your requirements exactly. We offer horizontal pay-offs, overhead pay-offs and rotating pay-off tables to accommodate and proceed the wire

rod coil. We can also integrate motor-driven wire feeding and straightening units, if required. A cold rolling line is completed by dry coating units with a coating and dust-separating chamber. It can also be fitted with an optional filter set for dust-free production in a closed stearate circuit. Rolling devices and cassettes for the round-rolling, calibrating and ribbing of surfaces can be provided in the form of twin, triple and quad roller heads depending on the finished wire profile you require.



ÚKA
Overhead pay-off



KWA
Wire rod pay-off



KDS
Wire guiding tunnel



WEZ
Reverse bending descaler



DEZ
Feeding device



BSG/TF
Dry coating unit



DEG
Stress relieving unit



KBR
Stretching system



KEB
Vertical drawing machine



KHB
Horizontal drawing machine



KEB Kombi
Vertical drawing machine combi unit



KSG
S-roller drive unit



KHS
Horizontal spooler



KVS
Vertical spooler



KSS
Double spooler



KSS
Double spooler



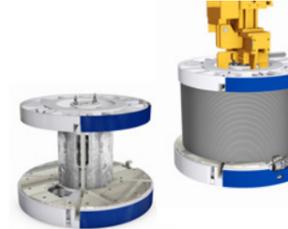
KCE
Swivelling crane / Coil discharging



KAB
Automatic tying system



KPK
Linear moving crane coil discharging



KTS
Collapsible spool



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Quality means success

High standards

Strength, stability, lasting performance – these are the properties that make KOCH cold rolling and stretching systems successful all over the world. Comprehensive quality testing before, during and after production is what enables us to achieve that. Monitoring capstan geometry and the quality of surfaces ensures that the end product is high quality. Tested drive equipment, pneumatics and hydraulics ensure that machine processes function reliably. Another important feature of our machines, one which we test under voltage, is their electronic installations and control cabinets. Machines do not leave our factory until all of their tools and apparatus are preconfigured.

Always up to date

We are always developing ourselves and improving our processes, technologies and internal procedures. Because they are regularly trained, our engineers, machine-builders, IT technicians and designers are kept permanently up to date with the latest knowledge. Their expertise helps us set technical and economic standards in the development of new products in the wire processing industry.





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After-sales service. Individual yet comprehensive

We will always be there at your side when you need us. If you have any questions about our rolling and stretching systems in your production line, if you require help operating the machines, or if you need genuine spare and wearing parts that will keep your system functioning at its best, then call our Service Hotline, where we or our subsidiaries around the world will be ready to help you.

A specialized KOCH consultant will assist you actively during the entire life cycle of your system. We will help you using online diagnosis, or of course by coming to your premises. In order to optimize your operational dependability, we can offer you custom solutions for machine maintenance and preventative servicing. By constantly improving our support at an international level, we aspire to become true partners.

The key to our success is our constant dedication to the needs of our customers. That is what enables us to respond flexibly to changing markets. We aim to open up new industry solutions for our partners by developing forward-looking and technically sophisticated applications. We can advise you comprehensively on production logistics and automation, information technology and other future technologies. And we can find solutions that help you achieve your aims and move forward in the market.





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