

VCC® – VERTICAL COMPACT COILER

Compact, torsion-free coils



The Vertical Compact Coiler (VCC®) features spooling technology developed by SMS Meer for producing compact coils consisting of rebars, rounds, squares and hexagons.

BENEFITS AT A GLANCE

- Torsion-free coils for cutting and bending lines
- High coil density: 75% steel, 25% air
- Compact and good coil geometry
- Significantly reduced storage space

TECHNOLOGY HIGHLIGHT: VCC®

SMS Meer's VCC® is today's state-of-the-art solution for producing compact and torsion-free coils, and is now increasingly in demand by rebar post-processors.

The VCC® concept combines the best elements of modern mechanical engineering for rolling mill applications: industrial design standards, including heavy duty service factors, focus on maintenance minimisation, easy erection and start-up, effective safety features and a design that perfectly suits the overall production process.

REDUCTION IN COSTS AND PROCESS CYCLE TIMES

One of the most important features of VCC® is its method of coiling the bar directly in the vertical position. Plant operators can therefore eliminate the need for turning manipulators and at the same time reduce the process cycle time, as all coils are formed in the final position. The coils are ready to be stored immediately once coiling has been completed and the coils have cooled down. Reduced handling also minimises the overall risk of damaging the coil surface.

BENEFITS AT A GLANCE

- Compact and good coil geometry
- Heavy coil weight possible
- Torsion free coiling operation (no axial torsion)
- High productivity with possibility to install the system downstream of two rolling strands.



GENERAL CHARACTERISTICS OF VCC®

Product range	Plain rounds diameter 6 mm – 50 mm, rebars diameter 6 mm – 25 mm (up to 32 mm possible), as well as flats, squares and hexagons
Coil weight	Up to 3.5 t
Temperature range	500 °C – 900 °C
Speed	Up to 40 m/s
Winding temperature	550 °C – 850 °C
Coil dimensions	Internal diameter 850 mm, height 800 mm, external diameter 1,400 mm max.
Steel grades/Standards	DIN 488, NBR 7480, BS 4449, ASTM-A615-A706, GB 13014, GOST 10884, KSD 3504, IS 1786

THE COMPACT COIL

The compact coil is a crucial step forward in improving the pack-up quality of the final product. These coils have preselected dimensions that, thanks to VCC®, remain consistent for all products processed on the same line. At the same time the compact coil size is ideal for storage, transport and handling. This is particularly beneficial when coils are reworked next to construction sites, where there is a build-up of rebar stirrups and other concrete reinforcing structures, especially in metropolitan areas with many space constraints.

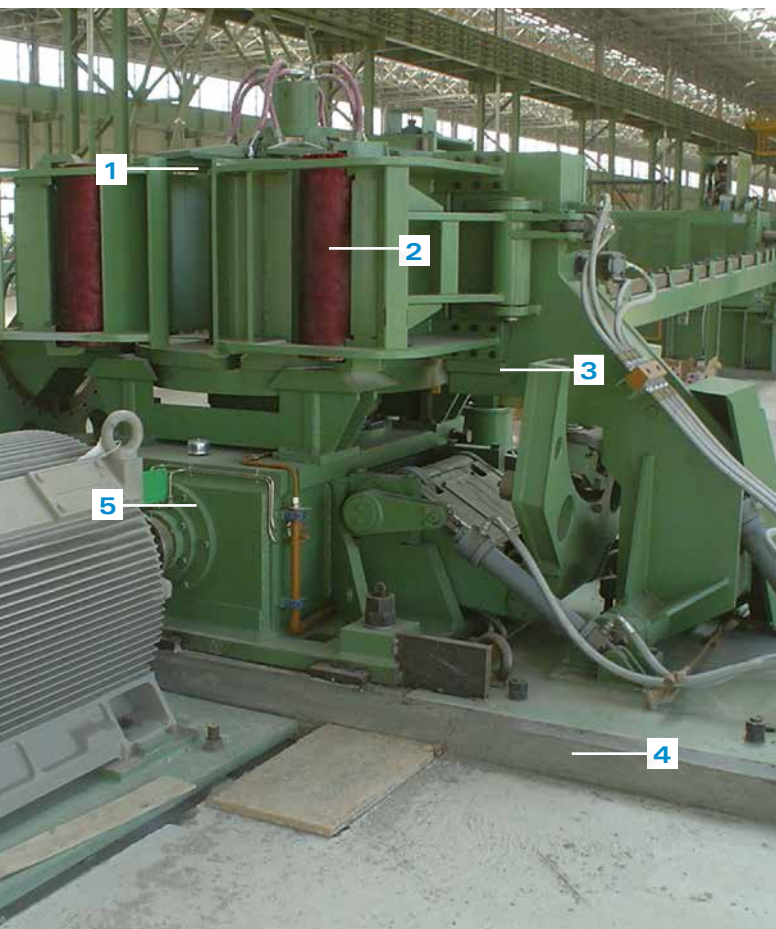
The hot rolled condition of the compact coils allows for direct cold working with high ductility during the elastic deformation process, as well as for low energy demand for final forming.

The geometry assures smooth de-coiling during the downstream process. SMS Meer's VCC® produces coils with weights of 3,500 kg. The higher weight significantly contributes to a reduction in times for downstream coil changing and to significant yield enhancements through minimised material losses.

COMPARISON TABLE: VCC® (VERTICAL COMPACT COILER) VS. HORIZONTAL SPOOLER

DIFFERENCES	SMS MEER VCC®	HORIZONTAL SPOOLER	REMARKS
Coil extraction	* * * * *	* * *	No need to turn the coil
Foundation works	* * * *	* *	Machine in vertical arrangement, this reduces foundation works
Easier coil transport	* * * *	* * *	Simple layout, no turning device
Reduced equipment and maintenance	* * * *	* * *	No turning device for the coil, no second shiftable support for the mandrel. Only two tying machines and one coil conveyor
Reduced costs and spare parts	* * * * *	* * *	No turning device for the coil, no second shiftable support for the mandrel. Only two tying machines and one coil conveyor
Necessary space for the installation	* * * *	* * *	Reduced size due to reduced scope of equipment installed
Initial investment	* * * * *	* *	Reduced costs due to reduced scope of equipment installed, simpler foundations, spare parts etc.

** Number of stars: the higher the better*



- 1** Vertical extraction from the top. No second support needed
- 2** Coil already in final position
- 3** Less equipment
- 4** Simple foundations, almost flat
- 5** Reduced investment and maintenance costs



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MEETING your EXPECTATIONS

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