

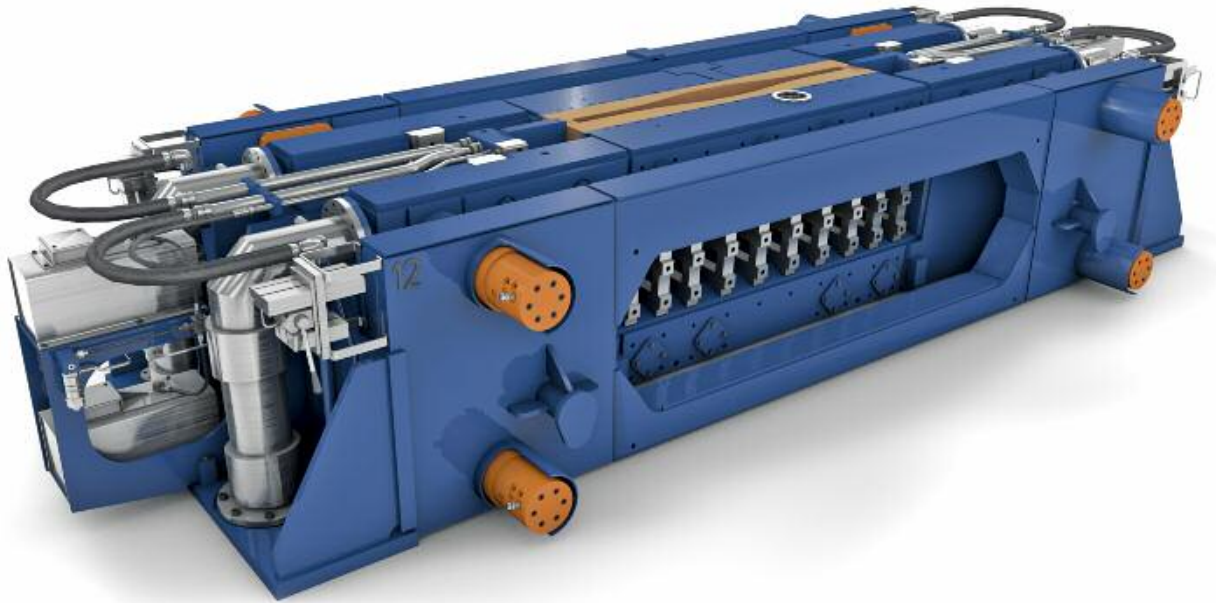
X-Pact® Width Control

Highest flexibility for maximized
plant availability



X-Pact® Width Control

Biggest width changes with shortest transition pieces at maximized operating safety



The challenge

The continuous casting process has developed to a very high technological level in order to extend the production range and to produce higher qualities. This means an increased demand to production flexibility and plant availability.

Particularly special steel grades and decreasing lot sizes with different casting widths are produced within a sequence.

The requested width adjustment steps are sometimes quite big. With conventional adjustment strategies several transition slabs are produced having width dimensions which fits to no order or the cast sequence has to be stopped in order to adjust the continuous casting machine to a new width.

In addition during production of crack sensitive steel grades even small width changes lead to large transition lengths to avoid the risk of breakouts (by occurring compressions of the strand shell or arising gap formation between the mold narrow side and strand shell).

The SMS group solution

The solution of SMS for these challenges is the “X-Pact® Width Control. It allows width and taper adaptations automatically during continuous production without the necessity to reduce casting speed during the adjustment. Thus, the X-Pact® Width Control offers a maximum flexibility with regard to the production schedule. All selected components ensure easy maintenance and can be exchanged easy.

Key features

- Allows biggest width changes at shortest transition pieces
- Reduces breakout risks especially for crack sensitive grades
- Optimizes narrow face heat flux
- Reduces copper plate wear
- Minimizes necessary re-stranding
- Highest yield and maximized production flexibility at the same time

Functions

Direct Adjustment	Used in case of small width changes, spreading or shrinkage compensation.
Delta Speed Adjustment	Increasing production flexibility and plant availability: <ul style="list-style-type: none"> • Larger width adjustments (e. g. > 200 mm) are done with higher adjustment speeds resulting in shorter transition length • Minimization of break out risks by smoothest stress on the strand shell: <ul style="list-style-type: none"> - width increase: minimizes gap between mold narrow faces and strand shell - width decrease: reduces compression on strand shell
Start of Cast Adjustment	Protection of narrow face copper plates. Narrow faces open slightly during start of cast and return to reference position after stable casting conditions are reached.
Width/Taper Adaption	Optimized width/taper setting according to cast speed and grade ensures save casting, optimized cooling and enhanced slab width.
Taper Correction	Based on the ratio of the narrow face heat flux, the system adapts the mold taper to optimize the heat flux ratio.
Broadface Relieve	Reduction of copper plate wear by reducing the spring forces during adjustment.
Strand Centering	Centering the strand shortly after cast start to prevent unequal strand cooling.
Position Calibration	Calibration for correct slab width and taper adjustment. The calibration can be done either after mold is set into the machine or in the maintenance shop.

Modernization

The X-Pact® Width Control can be integrated into any existing plant with lowest efforts.

Free choice of drive system

The X-Pact® Width Control works with any kind of drive system (Electro-hydraulic or Electro-mechanic)

Operate observe and analyze

All important signals and operation modes are shown



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