# SPX

- Industry: Chocolate
- Product: Mixer
- Value Proposition: Superior vertical blending
- #1205

The operating temperature had to be very close to the critical point that would have destroyed the quality of the product. A major raw chocolate producer needed to develop their mass standardization process.

To achieve high homogenization of the cocoa mass concentration, the operating temperature had to be very close to the critical point that would have destroyed the quality of the product.
This set extra high requirements for efficient heat transfer from the vessel wall into the bulk mass in order to avoid temperature gradients destroying the chocolate.

Customers in the chocolate processing industry usually use top entry agitators or even more often horizontal blenders consisting of plough impellers or a combination with helical ribbon impellers.
The installed mixers/blenders have several disadvantages. In particular, the extremely high-power consumption of the blenders has a negative impact on the overall energy balance of the process. Furthermore, these units have an enormous space requirement that leaves no space in the halls for expansions.

The top entry units installed in some chocolate processes mainly consist of anchor or complex frame-type impellers with additional elements in the center.
All of these constructions are complicated to clean.

UTG Mixing Group has applied its patented Sigma impeller series widely in the chemical industry and for special food industry applications for decades already. In 2015, this patented technology was introduced successfully also to the chocolate industry.

UTG Mixing Group's experts designed with the customer a special modification of Sigma technology that allowed a vertical tank mixing solution. The solution was tested with the customer's product and quality control methods at the UTG Mixing Technology R&D Center in Germany.

- Sigma technology generates forced counterflow circulation with good wall velocity.
- Sigma offers superior vertical blending compared to an anchor blade; the equivalent blending time can be achieved with less power due to more efficient circulation.
- Forces impacting on the agitator and drive are smaller than with an anchor impeller, allowing a lighter construction.