

Diameter of smallest pulleys

The **diameter of the smallest pulleys** is dependent on:

- **wrapping angle** of the belt around the small pulley
- **forward bending** or **reverse bending** (running or conveying side in contact with pulley)
- min. belt **temperature**

Wrapping angle (arc of contact) of the belt around the small pulley:

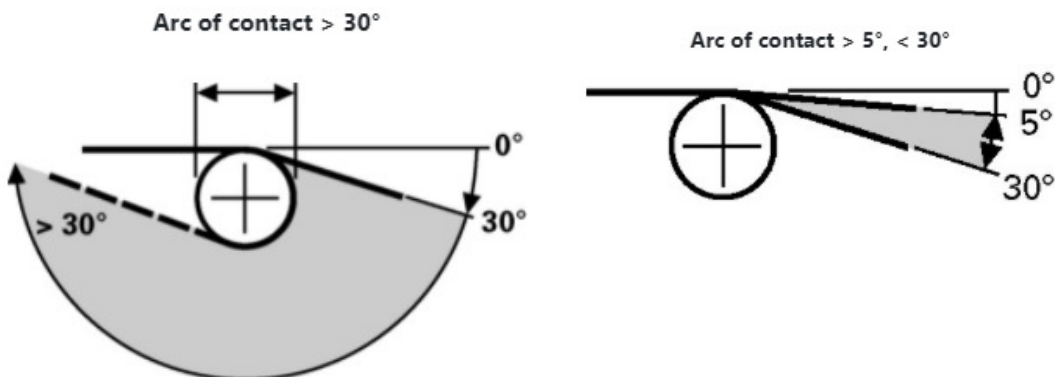
The bending stresses inside a belt are highly dependent on the arc of contact and the pulley diameter.

If the **arc of contact is $< 5^\circ$** , the min. pulley diameter has no influence and has **not to be considered** for calculation and belt selection.

If the **arc of contact is between 5° and 30°** , the min. pulley diameter has **a minor influence**.

If the **arc of contact is higher than 30°** , the min. pulley diameter is determinant and **is considered** for calculation and belt selection.

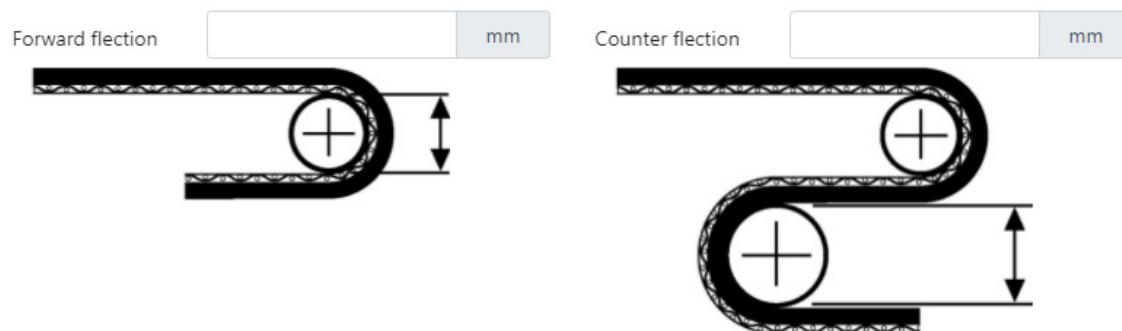
The minimum pulley diameter has to be entered in the respective fields and for some fields no data input is required. The fields for arc of contact between 5° and 30° will remain empty in many cases.



Forward flection or counter flection

For many belts with asymmetrical construction, **different bending diameters** for forward or counter flection **have to be considered**. We have to differentiate between the minimal pulley diameter where the belt undergoes a forward bending (running side in contact with pulley) and the minimal pulley diameter in case of a reverse bending (conveying side in contact with pulley).

If no counter flection occurs no input in the respective fields is required.



Min belt temperature

The minimal belt temperature (this is in most cases the minimal environmental temperature) has to be entered under **ambient temperature - Min.** This temperature input is used for belt selection and for the calculation of the required min. pulley diameters.