

1. If hinged steel belts are shipped, the driving chains are greased with a corrosion protective agent which has been applied by hot dipping procedure.
2. Before commissioning the hinged steel belts have to be greased with a suitable lubricant. Determination of greasing agent and greasing intervals for the installation will be within responsibility of manufacturer of the conveyor as well as within responsibility of the user. Lubricants, lubrication intervals, cleaning of chains, amount of lubricants as well as lubricating media have to be adjusted to the fields of application and operating conditions of the hinged steel belts. In any case, it should be consulted a manufacturer of lubricants with pertinent experience.

Some examples for chain lubricants and their manufacturers:

WOLFRASYN UL 129 G10	manufacturer - Klüber
FIN LUBE HT/SF 4	manufacturer - Interflon
PLANFLUID	manufacturer - Bechem

3. In order to ensure operativeness of hinged steel belts which are utilized in industrial bakery ovens following items should be strictly followed :

Description	Check und maintenance	Periods
Oven temperature	In case of temperature more than 300°C max. it has to be ensured that ventilation will be activated automatically and / or a warning installation will be set in motion.	
Hinged Steel Belt Tensioning	In case of heating up or cooling down of installation it has to be taken care that tensioning device will adapt to differences in length of hinged steel belt in order to avoid elongation or raising of driving chains on the sprockets.	
Baking channel	Removal of items as well as verification of baking surface of hinged steel belt with regard to cleanness.	After each assembly
Hinged steel belt	Verification for function and for cleanness as well as removal of baked dough reminders.	weekly
	Cleaning of hinged steel belts by applying baking grease or vegetable oil. The temperature of the oven should be reduced to 80°C – 100°C in this case.	monthly

Description	Check and maintenance	Periods
Driving chains	Verification for function and for cleanness. Lubrication by means of high temperature chain oil. Kinematic viscosity of lubricating oils should be between 400 (at 40°C) and 50 (at 100°C) mm ² /s.	monthly
In case of drive within hinged eyes made of fine casting.	Verification for function and for cleanness. Lubrication on the lower section of hinged elements (gearing of sprockets) by means of high temperature chain oil. Kinematic viscosity of lubricating oils should be between 400 (at 40°C) and 50 (at 100°C) mm ² /s.	monthly
Drive and deflection of hinged steel belt	Check rollers for drive and deflection if driving chains of hinged steel belt will run centrally within sprockets	monthly

4. In case of unfavourable or insufficient lubrication of chain lifetime may be considerably reduced.

5 **Assembly of the hinged steel belts within industrial bakery ovens**

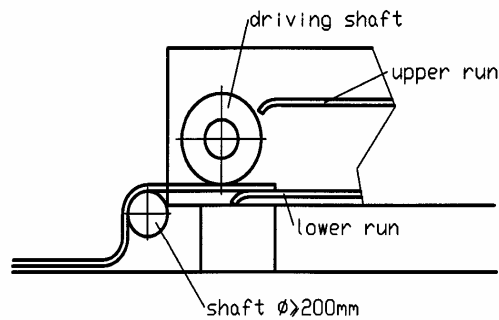
The belt has to be basically moved from the drive side in the lower run with the bakery surface at the bottom. The belt should be attached to a draw timber with two steel cables being mounted which will be followed through the lower run to the upper run up to the drive shaft. By winding the steel cables round the drive shaft the belt can be pulled into the oven by means of the drive.

For protection of the belt running-in facilities have to be installed at the bottom of the lower run. (See sketches hereafter). At the beginning of the moving-in process you have to make sure that moving-in of belt runs parallel to the oven. The connection of the belts happens at the bottom side of the lower run with the connection links provided whereas the end connection on the drive shaft will happen on the upper run. (See sketch hereafter).

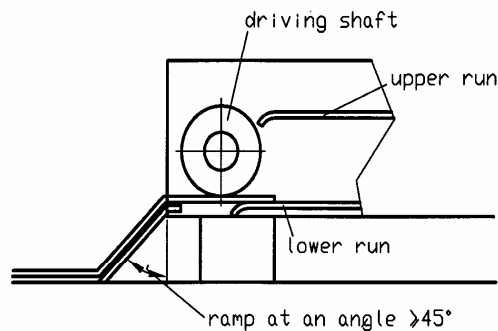
After assembly and before commissioning of belt the surface of the hinge plates has to be cleaned with a solvent to make sure that the corrosion oil has been removed.

The straight forward movement of the belts will initially be made in cold condition of the oven. This is done by adjusting the drive shaft and the deflection shaft. After heating up of the oven corrections have to be done in case of not straight forward running of belt will occur due to heat deformation.

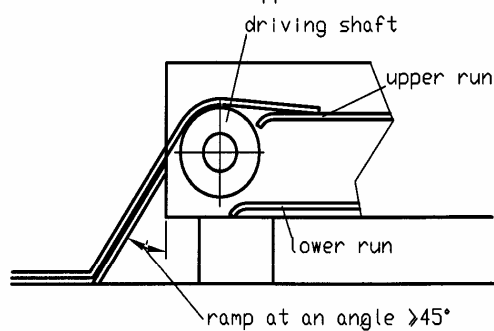
Installation and de-installation of hinged steel belt
via lower run



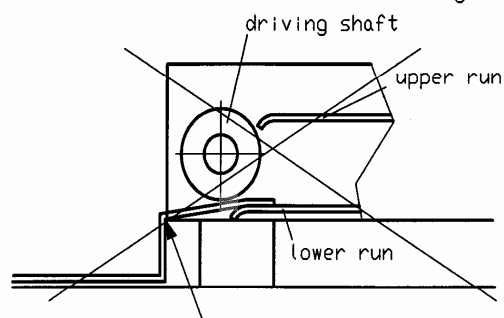
Installation and de-installation of hinged steel belt
via lower run



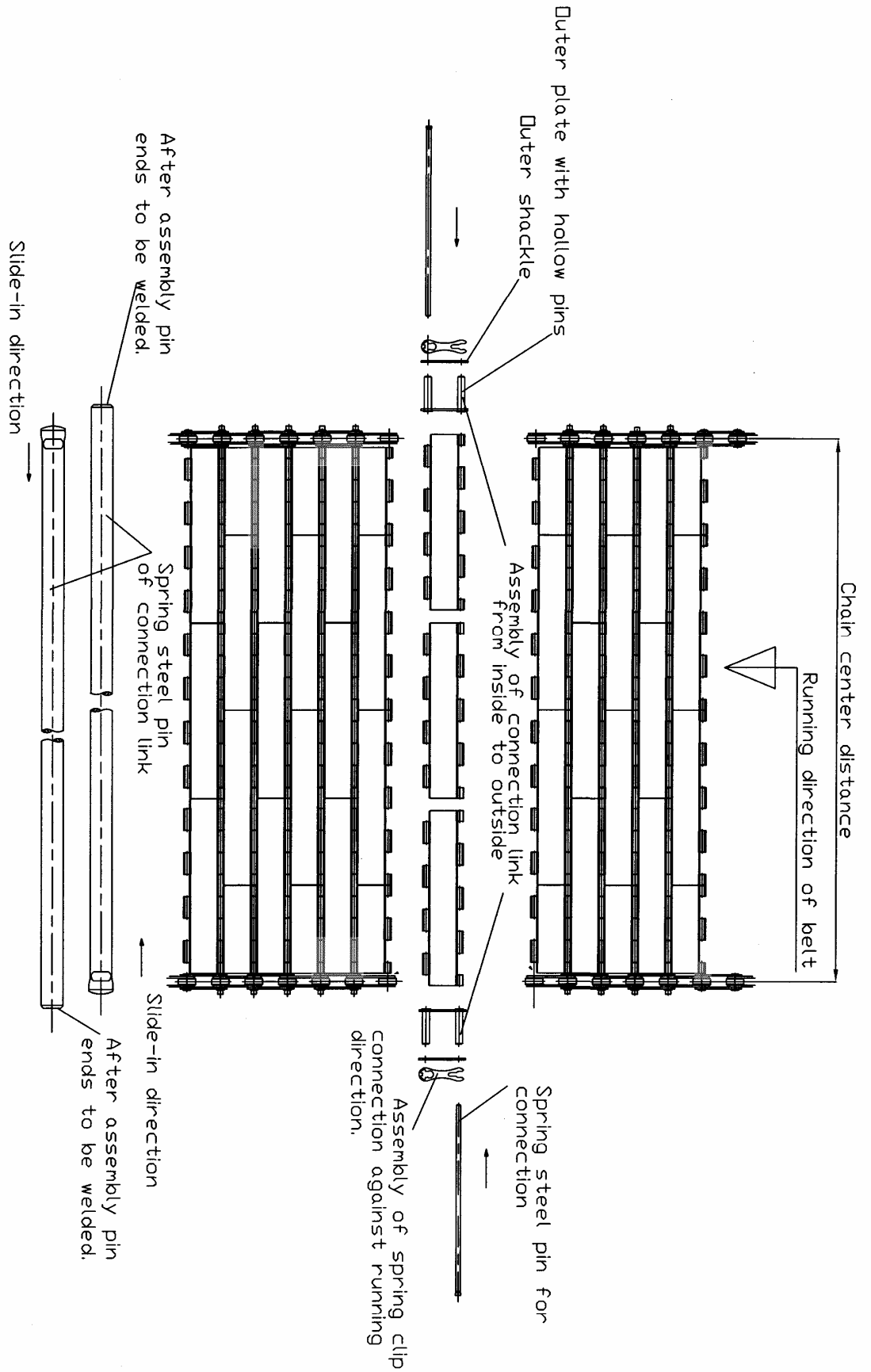
Deinstallation of hinged steel belt
via upper run



Wrong installation and de-installation of hinged steel belt



If hinged steel elements will
deviate more than 45°
in the upper direction, hinge
steel elements will be damaged.



6. Warranty criteria for hinged steel belts in relation to the structural conditions of bakery ovens

Baking section – forerun upper run

Drive shaft and deflection shaft have to be absolutely adjusted parallelly to each other. It is of paramount importance to have an adjustable drive shaft and deflection shaft in action so that the attitude of straight forward movement of the belt is ensured.

The basement underneath the belts has to be realized in closed execution by metal plates, grids or "V" shaped profiles. It is important to make sure that no sharp edges or shoulders on the basement will exist. It is not allowed to select linearly guided basements as this would result in punctual wear and tear and thus reduce lifetime of the belts. Both the inlet and outlet edges on the upper run as well as the inlet and outlet edges on the lower run have to be provided with a radius of min. 80mm or an inlet bevelling.

The diameters of the driving pulley and deflection pulley which help to support the belts have to be adapted to the pitch diameter of the sprockets. The supporting surface of the belt in the upper run must not be higher than the highest point of the driving and deflection pulley.

On both side walls of the oven between hinged steel belt and the oven wall a free space of min. 20 mm has to be respected. The free space underneath the drive chains should be at least 2 mm. The side walls in the height of approx. 25 mm in the area of the belt should be reinforced in order to avoid the oven walls being damaged by the axes of the belt.

Rewind lower run

The rewind should be realized by the use of rollers, sheet lining, grids or "V" shaped profiles.

Generally

It is important to make sure that a tensioning device has to be used which is meant to compensate for heat expansion.

If the oven is shut on and shut off, the tensioning device has to ensure that an excessive elongation of the belt or an overriding of the chains on the sprockets will be avoided.

The belts can be used up to a maximum ambient temperature of 300 ° C. According to customers` requirements the belt is designed for a special baking oven and for a particular purpose. Any modification or misappropriation or additional load will lead to an expiry of the warranty.

Hinged steel belts and their chains have to be maintained at regular intervals with appropriate lubricants.