

ClimatePartner **O** climate neutral print product

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## Generation X.e efficient experienced excellent



# FROM STANDARD TO CUSTOMIZATION

Industrial gear units that are tailored exactly to the operational and environmental conditions of an application - the new generation X.e. Selective improvements to the hardware of the X gear unit series and a redesigned, networked calculation landscape enable us to meet the individual customer requirements as precisely as possible. The results are maximum efficiency, increased safety and a long service life even at difficult operating conditions.

The new design features include:

- Contactless sealing systems
- Thermally improved oil level
- Optimized bearing preload for the shaft bearings
- Optimized gearing topology
- Improved bevel pinion housing in the input stage
- New fan and fan guard concept

Using the networked calculation landscape for the gear unit configuration, our experts consider the individual operating conditions of the customer's application. The generation X.e is mainly built upon experiences from the industry sectors mining, cement, and port logistics, in combination with the latest insights in calculation. Generation X.e promises optimal results for applications, such as cranes, conveyor belts, mixers, crushers, and many more.

# **Generation X.e sets standards**

## Contactless sealing systems

Contactless sealing systems are not affected by wear at the input and output shaft. Loss of oil is a thing of the past; and the operational safety is also increased.

#### Your benefit

• Significantly longer maintenance intervals for your drive system

#### 2) Thermally improved oil level

We are aware of the fine line between reducing the oil limit and obtaining an optimal heat dissipation. This knowledge enabled us to optimally reduce the oil bath temperature. The result: Increased operational safety, saving of resources, prolonged oil change intervals.

#### Your benefits:

- Savings of up to 29% of oil volume
- Increased oil service life by up to 110%
- Reduced churning losses by up to 87.5%
- Reduced oil bath temperature by up to 8%
- Increased thermal limit rating by up to 32%

### Optimized bearing preload

Order-specific settings – always the right bearing preload. This reduces the formation of heat spots. The low compression significantly increases the bearing service life.

#### Your benefits:

- Increased bearing service life of the gear unit by up to 220%
- Increased thermal limit rating by up to 24%
- Reduction of the oil bath temperature by up to 4%



Gear unit design	Stages	Gear ratio i	Nominal torque M <sub>N2</sub> kNm
Helical gear unit X.F.180e – X.F.250e	2 to 4 stages	6.3 - 400	58 – 175
Bevel-helical gear unit X.K.180e – X.K.250e	2 to 4 stages	6.3 - 400	58 – 175

### Optimized gearing topology

The optimized tooth flank topology is not very prone to displacements. Meshing interference can be better tolerated. This helps to avoid downtimes and increases system availability.

#### Your benefits:

- Basis for optimized bearing preload
- Higher operational safety of the drive when external forces effect the shafts
- A new calculation in combination with the optimized tooth flank topology allow for increased static overhung loads by up to 41% in case of unfavorable application angles
- Lower gear unit noise due to optimized tooth meshing

#### Improved bevel pinion housing

The improved bevel pinion housing enables an optimized oil flow. This is the basis for a higher thermal rating and results in a higher operational safety. Higher powers can be transmitted without the risk of unexpected machine downtimes.

#### Your benefits:

- Basis to obtain a 30% reduction in system power loss
- Increased operational reliability and improved cold start behavior
- Increased overall limit rating by up to 153%

### 6 Universal fan guard

The concept of our universal fan guard allows to arrange various fan sizes (boost, balanced, silent) and fan types under one cover. Not only does this concept facilitate fixed installation dimensions in your system, but it also allows for an optimal cooling while given sound pressure limits are adhered to.

#### Your benefits:

- Reduction of the oil bath temperature by up to 36%
- Increased thermal limit rating as compared to the current axial fan by up to 54%
- Lowered sound pressure level as compared to the current axial fan by up to 7 dB(A)