Symbols and general formulas

P = Power (kW)
i = Reduction ratio
T = Torque (Nm)
n = Speed (rpm)
Fr = Radial load (N)

Fa = Axial load (N)
f.s. = Service factor
D = Diameter (mm)
1 kW = 1,36 HP
9,81N = 1 kg

P_1 = Input power (kW)
P_2 = Output power (kW)
η = Efficiency
$P_1 * \eta$ = P2

T_2 = Output torque (Nm)
T_{2n} = Maximum output torque (Nm)

Rotation speeds

n_1 = Input speed (rpm)
n_2 = Output speed (rpm)

Reduction ratio

$$i = \frac{n_1}{n_2}$$

Torque

$$T_2 = \frac{9550 \cdot P_1 \cdot \eta}{n_2} \text{ [Nm]} \qquad T_{2n} \geq T_2 \cdot f_s \text{ [Nm]}$$

Radial load

The radial load is proportional to the torque required and inversely proportional to the transmitting diameter:

$$F_R = \frac{2000 \cdot T \cdot T.e.f.}{D} \text{ [N]}$$

F_R = Radial load
T = Torque (Nm)
T.e.f. = Transmission factor
T.e.f. = 1,15 for gear
= 1,4 for chain sprockets
= 1,75 for V pulleys
= 2,5 for flat pulleys
D = Transmitting diameter

Lubrification

- All motor-drives and drives are delivered pre-lubricated.
- Recommended oil for maintenance: **A.T.F.DEXRON**

Operation and maintenance

- The screws under the crank are preset, they should not be touched.

- ***Do not adjust the handle when the motor-drive is not attached as there is a risk of irreversible damage.***

- The drives are delivered lubricated, check the level before use.

- Check the level periodically after use.

- The temperature after use can reach 50°C to 55°C more than ambient temperature.

Type of load

- **U** = Conveyor for light loads, centrifugal pumps, lifts, boottling machines

- **M** = Heavy load conveyor, packaging machines, woodworking machines, gear pumps

- **H** = Mixers, Machines, Vibrators...

Service factor

The service factor depends mainly on 3 parameters:
- Type of load
- Operating time (h/day)
- How often the motor is started