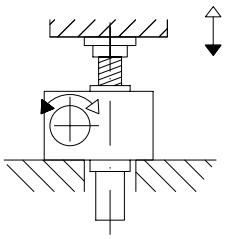
SWEDRIVE

Screw lifting jack
Description and operating instructions

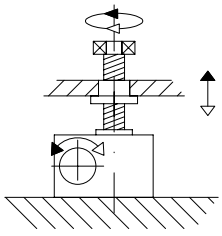
Description

The lifting units, design A (trapezoid spindle) and AK (ball thread spindle), consist of a worm gear, which transforms a rotating movement into an axial elevation of the spindle. The worm gear wheel is equipped with an internal nut, which provides an axial advance (forward feed) as soon as the spindle, fixed to the load, starts rotating. The axial forces on the gear wheel are absorbed by axial bearings, one for each load direction. The spindle of design AL and AKL is is fixed to the gear wheel. The load is moved when the spindle is rotated and the nut is screwed onto the load.

Design A, AK
Spindle moving axial

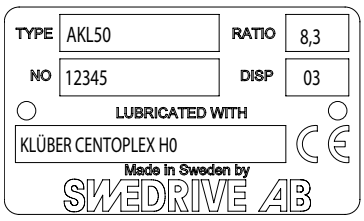


Design AL, AKL
Rotating spindle and running nut



Signs

The liftig jack is equipped with a type plate as shown in figure.
The field “No” = the lifting jacks serial number. The number is identical with Swedrives ordering number and should always be quoted at any issue concerning the lifting jack.



Usage

The lifting jacks are designed for moving loads horizontal (push/pull) or vertical (up/down). Only axial forces must influence the lifting jack. The loads must be guided in such a way that no radiell forces can influence the spindle. (See 2 in Mounting instructions).

If there is any risk of personal injury or machine damage, the lifting jack should be furnished with a security nut which will hold the load in case of failure in the gear wheel or running nut.. Max wear – see maintenance. Other usage than the above described is not allowed without our knowledge.
Warning! It is the responsibility of the erecter to mount the lifting jack in a way that makes it impossible for any person to get in touch with the rotating spindle. A protecting shield can be delivered on special request.

SWEDRIVE

Operation
Handle the spindle with great care! A dirty or damaged thread, a crooked spindle caused by incorrect mounting are due to decreased efficiency, durability and increased noise. A crooked spindle also can cause rupture by stress.

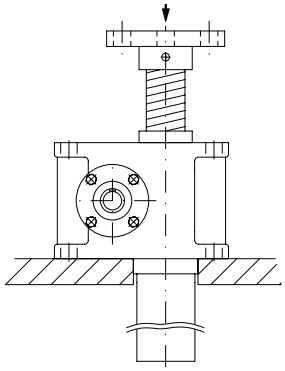
Storage
When stored the unprotected surfaces are to be treated with an anti-corrosion medium to prevent corrosion. The lifting jack should not be exposed to heat or sunlight to prevent aging of rubber details. If stored for more than one year, the axle (shaft) should be turned a few revolutions at regular intervals. Long spindles sould be stored in a way that prevents them from being crooked by there own weight.

Mounting instructions

1. The fastening plate and the pendulum level have to be stabil, even and free from any dirt. This, to prevent from built in tension of the housing. If no pendulum level is used, the fastening plate must be mounted in an absolutely right angle to the stroke direction.

2. The lifting jack must be prevented from lateral forces. The load should be moved by means of slides, which ensure that only tension or thrust loads influence the spindle.

3. The lifting jacks should be mounted so that tha load is directed towards the mounting surface.



4. When combining several lifting jacks, with driving units and gears, alignment is very important.

5. Rightly mounted and aligned, it should be possible to turn the driving shaft by hand.

6. The spindle must never be lowered beyond its limit stop. This can damage the thread. Always make sure that approx. 5 mm of the spindle thread is visible above housing. Check that the length of the spindle and the stroke are corresponding, so that the spindle always is catching the nut. This is valied for design A only. Design AK has a protection stopper, which is not to be used as a mechanical limit stop. A mechanical limit stop is available on special request.

SWEDRIVE

Before start

1. If the delivery comprises an electric drive, always check that voltage marking (see type plate) is corresponding with the supply voltage.

2. Check, via the filin cap, that the housing is filled with lubricant. See list of recommended lubricants below.

3. Check that the spindle is lubricated and that a recommended lubricant is used.

4. If possible, run in the lifting jack by using only half the load. After a few cycles endured, the load is increased.

Maintenance

1. The spindle must be kept clean from dust and dirt. A protection sleeve is available (See main catalogue).

2. Always check that the spindle is sufficiently lubricated. A poorly lubricated spindle shortens the life time and increases energy requirement.

3. Lifting units with a trapezoid spindle, design A and AL, is an upper limit of the nut thread wear specified: a 1/4 of the lead for single thread and a 1/8 of the lead for multiple thread. (Ex. TR30X6 (1,5 mm).

Lubricants

Gear See type plate. In the standard version the lifting jacks are filled up with Klüber Contoplex H0 (M00).
Other recommende lubricants are Mobil Mobilith SHC007 (E007)
Castrol Spheerol EP L00 (E00)

Spindle Klüber Duotempi PMY45 (S3)*, Shell limax EP2 (M2),
Mobil Mobilux EP2 (M2).

*Not suitable for ball thread spindle

Note! Characters in paranthesis: S = synthetic lubricant, M = mineral lubricant.
Figures indicate consistency: 0 = fluid, 1-3 grease with increasing viscosity

Warning! Never mix synthetic lubricants with lubricants of mineral basis!