



M A N U A L

REKO SCREW SEPARATOR

REKO REF. NO. : **P180293**
SERIAL NO. : **P180293-1**
PURCHASE ORDER :
PROJECT : **Spain**
TYPE : **ZS 190**
YEAR : **2018**
APPLICATION :
CAPACITY : **max. 30 m³/h**

Product of:

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1) GENERAL DESCRIPTION

The REKO screw separators are standard made of AISI 304 with REKOLON 10 liner material and a spiral of REKO High Tensile Strength Steel.

The screw separators are customary fitted with bolted covers and gear drives.

All deviations from the customary executional details can be found in the enclosed product drawing(s).

1.1 Connection with other systems

If there are any other REKO-systems involved in the process (static-vibrating- or rotary screen) the respective manuals are valid.



2) SAFETY

Every piece of machinery meets the safety standards dictated in the instruction of the European Committee for Standardization (CEN).

2.1 Safety standards

The REKO screw separator comply with the ruling Dutch safety and quality standards and regulations for machinery which apply.

The Dutch regulations and standards are based on the basic concepts of the CE-standard (Conformité Européen), established by the European Committee for Standardization (CEN).

For REKO screw separator apply the following regulations:

- **NEN-EN-ISO 12100-1 (2010)** *"Safety of machinery – General principles for design – Risk assessment and risk reduction".*

Prior to transportation each REKO screw separator is checked individually with respect to conformity with the quality and safety demands.

2.2 Certificates

If the supplied REKO screw separator is a ready to use piece of machinery, which can be installed and put to operation independent from other equipment, a IIA certificate can be attached to this manual.

If the supplied REKO screw separator is to be integrated with other pieces of machinery, such that it has no independent function as long as not integrated, a IIB certificate can be attached to this manual.

Called certificates will be just attached, if REKO is informed about the facts and the delivery of these certificates are explicit agreed.

REKO Industrial Equipment B.V. does not accept any responsibility when safety warnings and instructions are being disregarded or when protective constructions are removed.

2.3 Warnings regarding safety

Some stickers with warning signs are attached to the machinery.

For stickers where an explanation is considered useful, this is mentioned next to the sticker.

!!! ROTATING SHAFTLESS SCREW !!!
!!! DANGER FOR LIMBS GETTING JAMMED !!!



GEVAAR, LEES VOOR GEBRUIK DE
 BEDRIJFSHANDLEIDING

DANGER, READ INSTRUCTION MANUAL
 BEFORE USE

DANGER, LISEZ LE MANUAL D'INSTRUC-
 TION AVANT L'USAGE

REKO

GEFAHR, LESEN SIE VOR GEBRAUCH
 DIE BETRIEBSANLEITUNG

FORM. KI-G-48/0795/NL



PIKT-O-NORM

NOTE: Always stop and disconnect the material supply towards to the screw conveyor and disconnect the power supply to the conveyor itself before conducting any (maintenance) activities. Mind the danger of and prevent the touching of moving parts (such as the screw).

NOTE: To prevent electric shock hazard, always disconnect the power supply to the gearbox before conducting any maintenance works or repairs. Convince that no one can put the machine back to operation during repairs/maintenance.

During inspection of the machine while in operation proper **personal protection** has to be used, like safety glasses and/or protective clothing.

3) INSTALLATION

3.1 Hoisting/lifting

While choosing the lifting/hoisting point(s) on the machine non-equally divided weight has to be taken into account, caused by:

To prevent damage of the machine the following should be observed:

- During hoisting/lifting the machine should be supported at 2 places at least. Preferably every 3 to 4 meter.
- Use good lifting slings and secure them against movement.
- Protect the trough against damaging and corrosion due to contact with other materials during transport.
- Ensure a stable attachment to prevent tilting of the trough., use brackets.

3.2 Supporting the machine

The REKO screw separator has to be installed **stable** and has to be **firmly** attached to the floor or supporting frames.

To enable supporting, the trough has fastening brackets with bolting holes on both sides.

NOTE: **The trough has a tendency to tilt in the direction of screw rotation and twist.
It is inadmissible using no brackets for strengthen while starting up.**

3.3 Putting together/welding the screw

If the trough and the screw is being delivered in more parts the mounting is expected suborb. The whole lenght will be delivered in functionary parts.

Geardrive – trough – spiral 1. Part with couppleflanges
Eventual trough middle piece.
Spiral 2. part with sedimentation cotainer and couppleflanges
Packing between couppleflanges.

3.3.1 Putting together

Putting together in coordination with the single parts starting from the gear drive to the sedimentation container.
The spiral will be welded together in one piece. (REKO-Discription for welding)

3.3.2 Trial runs

It is recomended to tack the spiral first for trial runs, afterwards it needs to be welded completly.

NOTE: Keep distance while spiral is in operation!
Don't touch the spiral, DANGER!
Watch person in the enviroment!

3.4 Shielding of moving parts

When putting the installation in place be aware of possible dangers to surroundings and persons. Covers (equipped with safety switches) protect against ingress of unwanted objects and prevent people against contact with moving parts of the machine.

When installation/integration of the screw separator is carried out by the customer the following directives are advised to be observed:

- During installation of the machine moving parts should be shielded as much as possible.
- Shield the trough openings in such a way that people cannot touch the moving parts during trial runs.
Mount the covers and shield the inlet openings.
- When hinged or removable covers/grids are being installed emergency switches must be installed.
The machine has to be switched of, when a cover/grid is opened or removed.
- Install emergency stop switches within reach of the machine.

REKO Industrial Equipment B.V. does not accept any responsibility, if warnings and directives are being neglected or when protective constructions delivered are not being used or are removed.

4) STARTING UP

- 1) Check if the trough is clear of objects (not belonging there).
- 2) Check the oil level of the gearbox (see attached operating and maintenance instruction).
- 3) Connect an ammeter to one phase of the drive unit.
- 4) Check the possibility of free movement of the lid at the end of the press section.
BE AWARE ! : moving screw behind the lid. Do not reach for the screw !
- 5) Start the screw separator and check all components for proper operation.
- 6) Evenly supply the machine with the material to be transported.

5) MOTORDRIVE PROTECTION

The electrical motor from the drive has to be protected against overloading.
Should this be neglected, REKO Industrial Equipment B.V. will give no guarantee on the drive unit of the machine.

6) INSPECTION AND MAINTENANCE

Due to the robust and simple construction, the maintenance and inspection requirements for screw separators are kept to a minimum.

6.1 First inspection

The first inspection should be carried out after 24 hours of operation.

- Check the upper (and if applicable the lower) value safety settings for the motordrive, adjust if required.
- Check gearbox for oil leakage.
- Check the seal of the packing gland (if fitted) and adjust, if necessary.
- Check all support fixings and other bolted connections.

6.2 Periodical inspections

After 500 working hours or	:	Check oil level; check gearbox for leakage.
Every 500 hours	:	Check oil level; check drive for leakage. Check screw and liner for excessive wear.
Every 10.000 working hours or after 1 year at the latest	:	Change gearbox oil (see enclosed NORD operating and maintenance instruction).
If necessary	:	Clean the dewatering basket and/or dewatering section(s).

6.3 Adjustment of position of screw with regard to liner

Only applicable when the trough is fitted with an adjustable motor support plate.

The adjustable motor support plate is mounted onto the fixed motorplate at the trough by means of 4 bolts/nuts. Since the motor support plate has 4 slots, it can be moved vertically with regard to the bottom of the trough.

Due to this, the position of the screw with respect to the trough/liner can be adjusted.

Adjustment of the distance between liner and trough

- Loosen the bolts at the slots of the drive support plate. Support the gearbox suitably by means of a pulley block. Lower the gearbox (together with the support plate, drive shaft and shaftless screw) in order to create a minimal gap between screw and liner over as much length as possible. Be aware that the full weight of the drive, gearbox and screw is not supported by a small liner surface only. This causes excessive wear !
- Fasten the bolts of the motor support plate. Start conveyor and check for proper operation and adjustment.

6.4 Replacement of liner

The standard length of a piece of liner (U-shaped) is 1000 mm. In most cases the last section has to be sized on site. The liners are preshaped to facilitate ease of fitting and provided with brackets to retain the U-shape.

- 1) Disconnecting the coupling flanges and remove the shaftless screw. Loosen the drive shaft and remove it.

Optional:

If the trough has a large hole motorplate in combination with an adjustable motor support plate.

Support the drive unit. Remove the nuts that hold the motor support plate.

The screw (together with the drive shaft and drive unit) can be removed through the hole in the motorplate.

Remove the old pieces of liner as well as any other obstruction that might hamper placement of the new pieces of liner.

- 2) Remove the brackets from the liner.
- 3) Place a piece of replacement liner in the trough and insure the edge of one side of the liner is positioned under the cams.
- 4) Push the liner further into the trough, until the other side also falls into place under the cams.
If necessary, use a piece of timber (to avoid damage) and a hammer to get the liner into place.
- 5) Repeat step 1 to 4 until all liners have been replaced. The last piece will probably have to made on size on site.
- 6) Replace the screw and nuts. Re-adjust the distance between liner and screw, if the trough has an adjustable motor support plate.

7) SPARE PARTS

Thanks to the robust and simple construction of the REKO machines very little spare parts will be needed.

When spare parts are being ordered, the REKO order and serial numbers of the machine have to be mentioned.

The serial number is indicated on the manufacturer's name plate attached to the machine.

The order number is mentioned on the front page of this manual.

Please use for order attached spare part list.

8) DRAWINGS