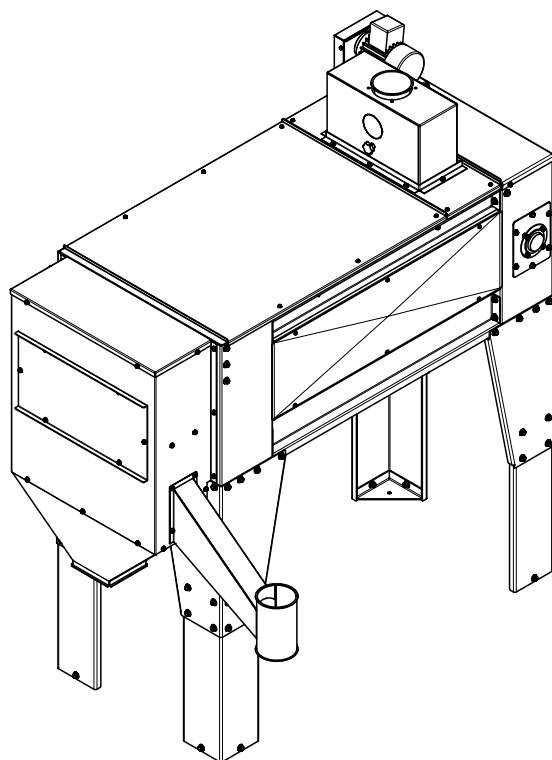


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INSTRUCTION MANUAL

SKIOLD SCREEN CLEANER

TYPE NO. 200114



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3.0 WARNING

At servicing and inside cleaning the electricity should be switched off at the main switch and the switch locked.

The screen cleaner may contain an atmosphere with danger of explosion in the form of a cloud of dust, and therefore the equipment and electrical components placed in the bins must be Ex-marked for use in zone 21 according to unified standards DS/EN 50014, DS/EN 50281-1-1 and DS/EN 50281-1-2.

To observe the unified standards concerning dust explosions DS/EN 1127-1 and DS/EN 13463-1, the cover and side plates of the screen cleaner should be mounted during operation.

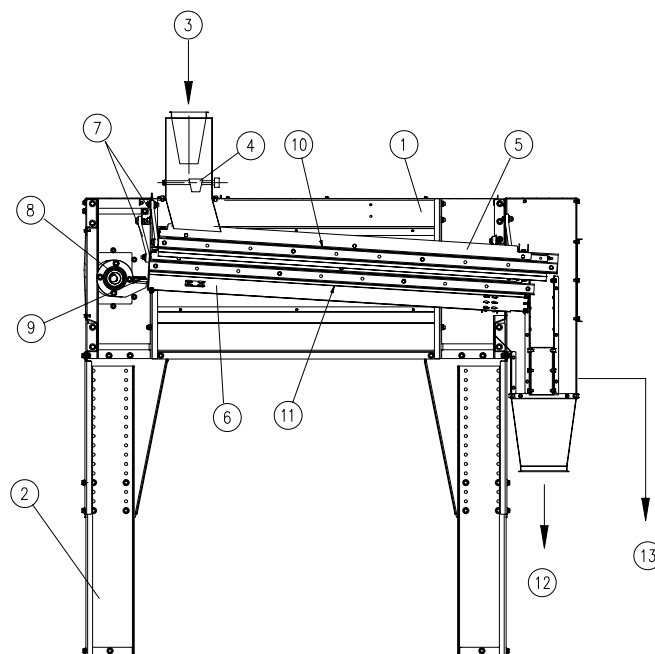
The cleaner may not – without prior contact to the producer – be used for other purposes than described by the producer – which means cleaning of grain and feed products in granulated form. For further information see "Field of Application" and "Technical Specifications".

The screen cleaner should be mounted on a plane, concrete floor with a carrying capacity of min. 7 kg/cm².

Electrical connection MUST be carried out by an authorized electrician, and DS/EN 60079-14 and DS/EN 60204-1 must be observed.

4.0 FUNCTIONAL DESCRIPTION

Fig. 1 Cleaning principle



Chassis Pos. 1.

The chassis is made of galvanized steel which has been bolted together. The cleaner is equipped with side plates and cover, at the same time working as inspection and protection covers. On the chassis has been mounted height adjustable legs pos. 2.

Inlet Pos. 3

The raw materials are led to the inlet pos. 3. To have a satisfying cleaning it is important that the material is added in a constant flow. In the inlet box the material is collected in the conical inlet and then distributed in the whole width of the upper screen by means of the adjustable distributor plate pos. 4.

Screen Frames Pos. 5 and 6

Each of the screen frames pos. 5 and 6 is suspended in separate suspension belts pos. 7. By means of 2 pairs of eccentrics pos. 8 the forward and backward movements of the screen frames are transferred by means of the tension springs pos. 9. To minimize the vibrations of the screen cleaner the eccentrics have been placed oppositely in pairs so that one screen frame moves forward when the other moves backward, and in this way they work as counter balances.

Screens Pos. 10 and 11

In the upper screen frame is mounted a scalper screen pos. 10. The hole size of the scalper screen should allow the raw material to fall through while particles larger than the raw material remain on the screen. The size of the screen can be seen in chapter "Choice of Screen Sizes" point 7.3.

In the lower screen frame is mounted a sand screen pos. 11. The hole size of the sand screen should allow the raw material to remain on the screen while particles smaller than the raw material falls through. The size of the screen can be seen in chapter "Choice of Screen Sizes" point 7.3.

Outlet Pos. 12 and 13

The particles sorted out, oversize from the scalper screen and undersize from the sand screen, are led to outlet pos. 12, from where they are either sacked off or transported away. The cleaned raw materials are led to outlet pos. 13 placed alongside the cleaner.

5.0 MOUNTING

5.1 Installation Tools

- Hand hammer
- Screw driver with even and recessed head
- Combination wrench 8, 10, 13, 17, 19 mm
- Various Allen keys
- Drilling machine, 10 mm concrete drill
- 10 mm, 12 mm steel drill
- Ladder

5.2 Directions of Erection

The screen cleaner should be mounted on a plane concrete floor with a carrying capacity of min. 7 kg/cm².

The screen cleaner should be placed in a way that transport equipment to and from the screen cleaner can be established in the process line. Be sure that there is space around the cleaner for cleaning and service and for replacing of screens, requiring 1 m free space at the outlet end.

The length of the legs can be adapted in steps of 40 mm.

To have an optimum yield of the cleaner it is important that it is aligned by means of a block level.

5.3 Assembly and Erection

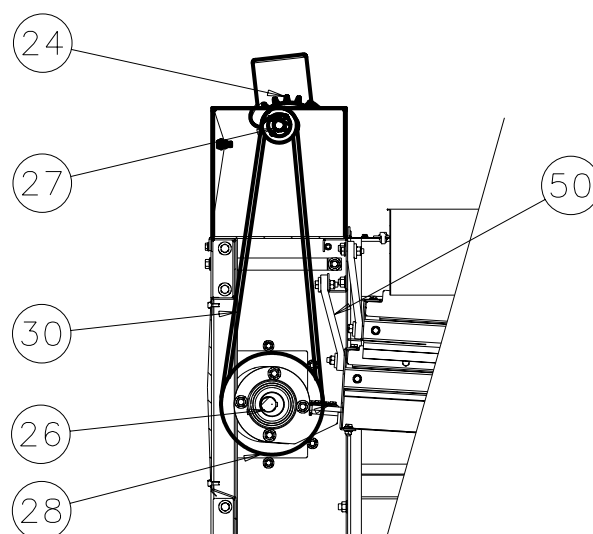
The screen cleaner is delivered ready-assembled except from motor and belt drive.

Mount the motor pos. 24 onto the motor bracket pos. 18 by means of the M10x30 steel set screw delivered. Then mount belt pulley pos. 29 by means of taperlock pos. 27. Mount the 2 V-belts pos. 30 and finally the belt guard.

Place the screen cleaner on the required position and adjust the length of the legs as required (height adjusting area: See dimensional sketch under technical specifications).

Bolt the legs onto the foundation by means of the foundation bolts delivered.

Fig. 2 Assembly and erection



5.4 Electrical Connection of Screen Cleaner

The motor should be secured by thermal relay and fuse corresponding to the rating plate of the motor.

5.5 Erection of Aspiration Plant

To avoid dust problems in and around the screen cleaner it is recommended to mount an aspiration plant maintaining a low pressure in the cleaner.

The inlet box of the screen cleaner is equipped with a Ø100 mm blanking piece, which should be removed by a hammer when the aspiration plant is to be mounted. When mounting the suction pipes use the Ø100 mm flange delivered as a templet when the mounting holes in the inlet box are drilled.

The aspiration plant is additional equipment that should be ordered separately. It is recommended to use Ø100 mm pipes for suction and a capacity of app. 700 m³/hour.

6.0 STARTING UP

Check that there are no foreign bodies in the screen cleaner before starting up.

Check that the direction of revolutions is correct according to the indicating arrow.

The belt guard should be mounted before the machine is started up.

When the screen has been operating for approx. 2 hours, check the following:

- Have all bolts been correctly tightened - especially bolts at eccentrics and tension springs should be checked?
- Are the screens moving forward and backward in a straight line?
- Are motor and bearings abnormally hot?
- Is the screen cleaner correctly anchored to the foundation?
- Are there abnormal vibrations in the screen cleaner?

7.0 USER'S MANUAL

7.1 Field of Application

The screen cleaner is suitable for pre-cleaning of grain and grained products to be used for feed production. It can furthermore be used for fine-cleaning when the capacity is reduced.

In case of any deviations from the above purpose, the manufacturer of the machine should be consulted for an acceptance. If not, the guarantee lapses.

7.2 Operation

To achieve a satisfactory cleaning it is important that the distributor plate of the inlet box, see pos. 4, is correctly adjusted, so that the raw materials are distributed to the whole screen.

Furthermore it is important to use the correct screens suitable for the raw material in question.

7.3 Choice of Screen Size

The screen size is adapted to the size of the raw materials to be cleaned and the requirements to the cleaning. For pre-cleaning the following screens can be used:

	Barley/Wheat/ Rye/Oats	Rape	Peas	Maize
	Pre-Cleaning	Pre-Cleaning	Pre-Cleaning	Pre-Cleaning
Upper screen	Ø 8 - 10	Ø 6	Ø 10	Ø 13 - 15 **
Lower screen	Ø 1.5 x 20	Ø 1.0 x 20 *	Ø 2.5 x 20	Ø 2.5 x 20

* Not standard, produced to order.

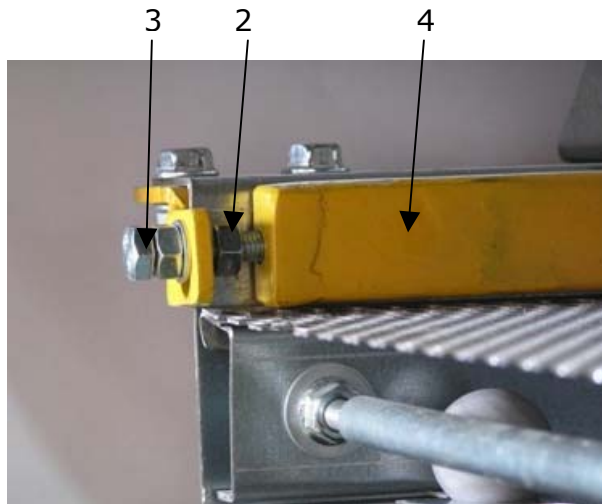
** Size of maize can vary a great deal. The screen is not standard, but produced to order.

In the chapter concerning spare parts the available screen sizes are stated.

7.4 Mounting/Replacement of Screens

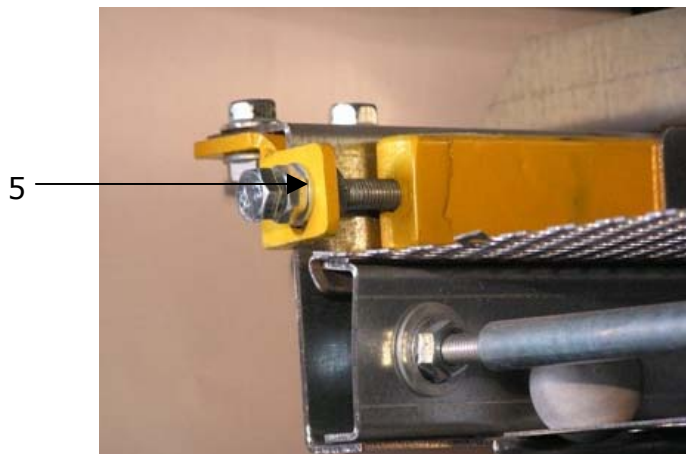
When replacing the screen, remove the end cover at the outlet end of the screen cleaner. Then loosen nut pos. 2. By means of bolt pos. 3 pull the fastening rail pos. 4 towards the outlet end. When the fastening rail is pulled forward, it will be lifted from the screen, and the screen frame can be pulled out. See fig. 3.

Fig. 3 Fastening rail



The fastening rail is loose

Fig. 4 Fastening rail



The fastening rail attaches the screen frame

When attaching the screen frame, push the fastening rail forward by means of the bolt pos. 3. When the screen has been attached, tighten the bolt by means of the nuts pos. and 5. See fig. 4.

7.5 Mounting of Cleaning Balls

The screen frames are equipped with cleaning balls preventing material from remaining in the screens.

When mounting cleaning balls, place the screen frame with the screen downwards on a plane foundation. Then place 6 cleaning balls in each of the 9 chambers of the screen frame. Use 3 backstops equipped with holes, the size of which has been adapted to the cleaning balls. The backstops are equipped with hollows with room for a ring spanner so that the screen can be tightened in the normal way.

Fig. 5 Screen frame



Screen frame with screen, cleaning balls and 2 mounted backstops. When the 3rd backstop has been mounted and the screen has been tightened, the screen frame is ready for mounting in the screen cleaner.

8.0 MAINTENANCE

8.1 Mechanics

The bearings of the screen cleaner are lifetime greased.

Check the V-belts each 500 hours of operation.

After 50 hours of operation check that all bolts are correctly tightened. Afterwards check the bolt tightening min. twice a year.

8.2 Cleaning

Note! All cleaning should be carried out in a way that no clouds with danger of explosions are generated. Pressure air is therefore not recommended. Instead use broom or vacuum cleaner.

To ensure necessary cooling and minimize risk of fire the motor should be kept free of dust coating.

Dismantle the side plates and clean the screen cleaner as necessary. Intervals of cleaning depend on the materials that are cleaned, and whether dust suction is mounted or not.

Clean the screen regularly for particles attached.

9.0 ESTABLISHED FAULTS, CAUSE AND REMEDY

The Motor Will not Start

- The thermo switch has been released due to overload. Check if the setting is correct.
- The fuse has blown. Replace the fuse. Send for an electrician.

Abnormal Noise is Heard from the Cleaner

- The bolts attaching the screen frames have not been correctly tightened, see chapter "Mounting/Replacement of Screens". Tighten the bolts.
- The bolts at the torsion springs (see spare parts pos. 46) have not been correctly tightened. Tighten these.

Capacity of the Screen Cleaner is too Low

- The screens have not been tightened, and the raw materials jump up and down on the screen instead of moving forward. Tighten the screens.

There are Impurities in the Cleaned Raw Materials

- The holes of the screen have been blocked. Clean these.
- An uncorrect size of screen has been mounted. Replace to the correct size.
- The screens have not been tightened (the raw materials jump up and down on the screen). Tighten the screens.

10.0 DISMANTLING OF THE SCREEN CLEANER

Dismantling of the screen cleaner takes place in opposite succession than assembly.

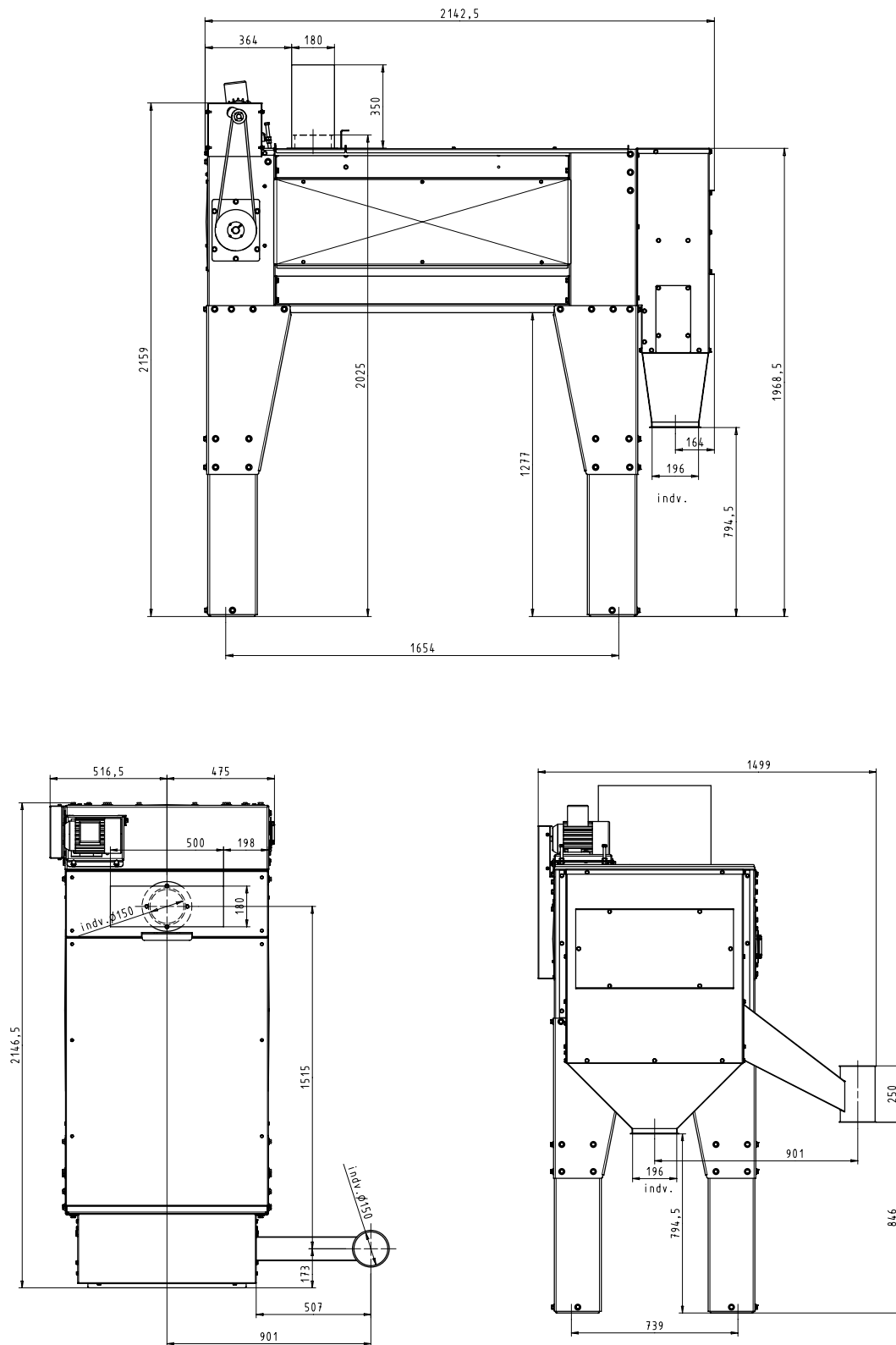
We refer to chapter "Assembly and Erection".

When scrapping the cleaner there are no special demands of disposal method.

11.0 TECHNICAL SPECIFICATIONS

11.1 Dimensional Sketch

Fig. 6 Dimensional sketch



11.2 Technical Data

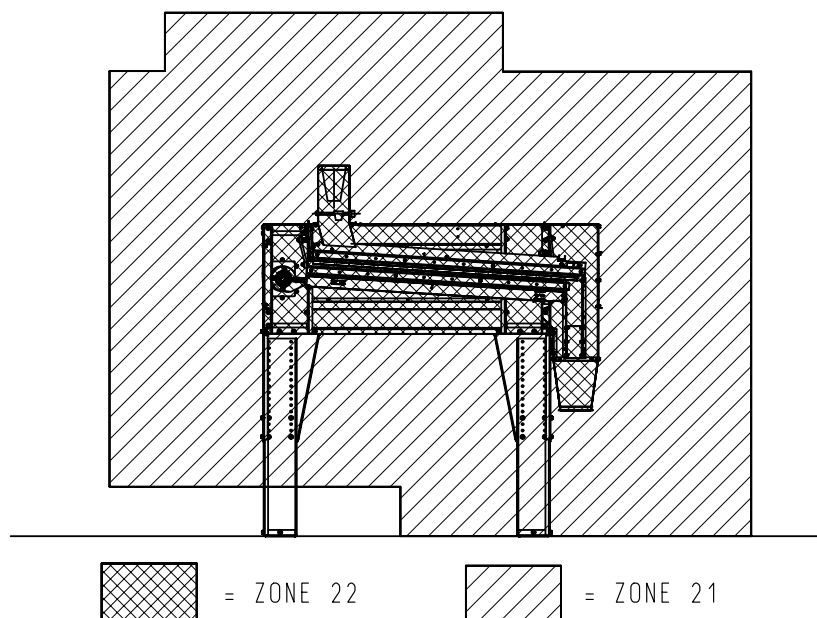
Motor kW	0.55
Screen area upper screen m ³	1.02
Screen area lower screen m ³	0.98
Vibrations per sec.	8.21

Capacity:

Precleaning (wheat) t/hour	6
Fine cleaning (wheat) t/hour	1

12.0 EX-ZONE SPECIFICATION

Fig. 7 Ex-zones



Ex-zones according to unified standards DS/EN 1127-1, DS/EN 50281-3, DS/EN 13463-1.

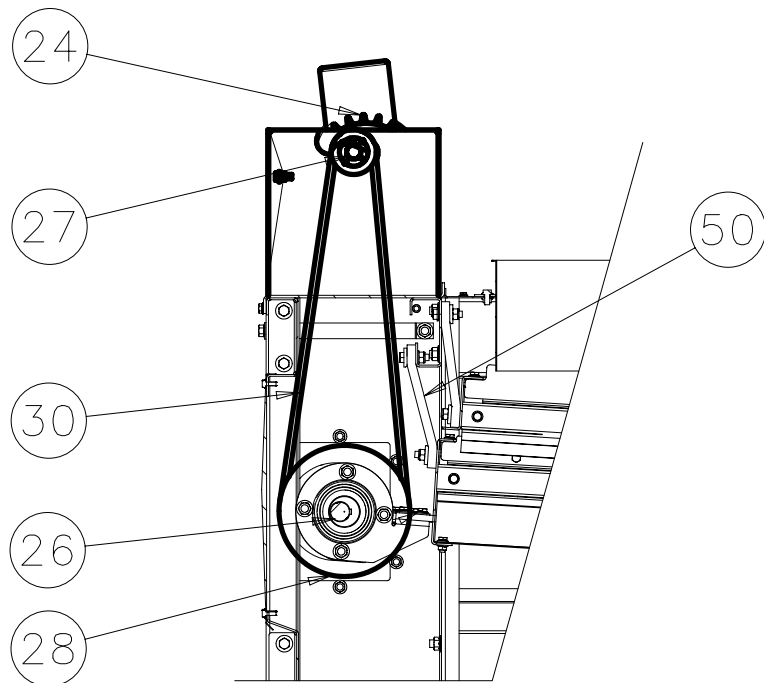
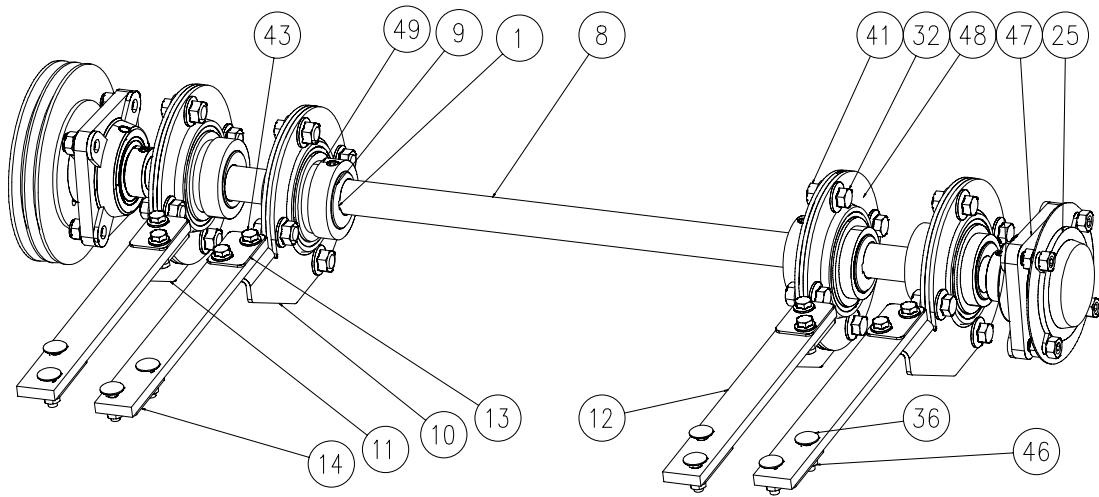
Around the cleaner and in a distance of min. 2 m to the extreme point is zone 22. Inside the cleaner is zone 21.

The precondition for the ex-zone specification is that the screen cleaner is equipped with cover, that tight connections through the cover are mounted, and that dust aspiration has been mounted.

If the cleaner is placed near other equipment with a zone stated to have larger danger of explosion, and so that the zones are overlapping each other, the most important zone statement is valid in the overlapped area.

13.0 SPARE PARTS LIST

Fig. 8 Spare parts drawing



Pos.	Item No.	Description	Qty
8	206403	Eccentric	4
10	206405	Connecting plate right	2
11	206406	Connecting plate left	2
12	206407	Tension spring	4
24	2340133	Motor 0.55 kW, 900 RPM	1
26	2420076	Taperlock 1610 ø 30	1
27	2430124	Taperlock 1210 ø 19	1
28	2430120	Belt pulley SPZ140-2-2012	1
29	2430121	Belt pulley SPZ 75-2-1210	1
30	2430122	V-belt SPZ 1287	1
47	6407055	Flange bearing	2
48	6407056	Flangebearing housing	8
49	6407098	Bearing GE 50 KRRB	4
50	1515057	Suspension belt	8

Upper Screen:

200116	Complete screen frame upper with cleaning balls without screen	1
201261	Screen ø 10 x 30	2
201255	Screen ø 6	2
201256	Screen ø 8	2
201257	Screen ø 10	2
201258	Screen ø 4 x 20	2
201259	Screen ø 6 x 25	2
201260	Screen ø 8 x 25	2

Lower Screen:

200116	Complete screen frame lower with cleaning balls without screen	1
201252	Screen ø 1.5 x 20	2
201253	Screen ø 2.0 x 20	2
201254	Screen ø 2.5 x 20	2
201268	Screen ø 1	2
201269	Screen ø 1.5	2

Note: Screen frames for upper and lower screens are the same, but at mounting of screens on the upper screen frame, an extension plate should be mounted, ensuring that overflows are led to outlet for overflow.

14.0 CE/ATEX-DECLARATION OF CONFORMITY

The signer

SKIOLD Sæby A/S

Kjeldgaardsvej, 9300 Sæby, Denmark, tel. No. +45 99 89 88 87

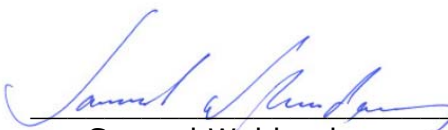
hereby declare that

Description	Type
Screen cleaner	200114

is constructed for erection in ATEX zone 22 and constructed and manufactured in conformity with the following directives:

Directive	Standard
CE/ATEX directives with updates	DS/EN 292-1 DS/EN 292-2 DS/EN 294-1 DS/EN 1127-1 DS/EN 13463-1 DS/EN 50281-1-1 DS/EN 50281-1-2 DS/EN 60204-1

Sæby, Denmark, 23.03.2007
Place and date of issue


Samuel Waldorph
Managing Director