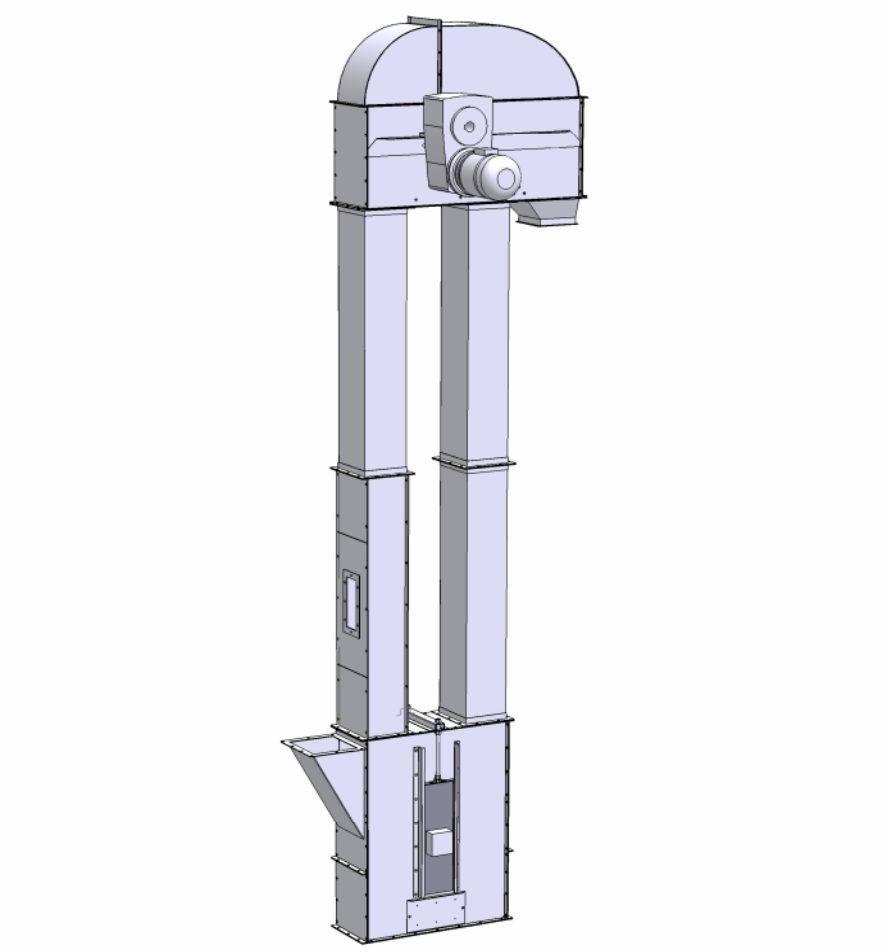
CROCUS

INSTRUCTION MANUAL



BUCKET ELEVATOR

CROCUS
Virkevangen 25, Assentoft
DK-8960 Randers SØ

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E-mail: crocus@crocus.dk
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CE

Preface

Please read the Instruction Manual thoroughly and ensure that all instructions concerning safety, running and maintenance are followed, in order to ensure optimal operation of the machine / equipment.

Please provide the following information when making any enquiries:
Type / Model, Fabrication number /year.

All equipment has an attached sign, giving fabrication details.

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EU – certificate of agreement

Manufacturer:

Crocus
Virkevangen 25
Assentoft
DK-8960 Randers SØ

Hereby declare that this machine

Type: Crocus bucket elevator

Model: **E80**, **E130, E180, ES181, ES182, ES183, E230, E280, E370, E450, E740 & E900**

which are covered by this declaration are manufactured in accordance with the EU- directive of 14th June 1989 concerning mutual rapprochement of legislation for machinery (89/392/EØF) in all member countries and with especial reference to the directives appendix 1 regarding health and safety requirements during the construction and manufacture of machines.

4/12 03
Date

Ejvind Møller (Manufacturer)

DANISH
TECHNOLOGICAL
INSTITUTE
Certification & Inspection

CERTIFICATE

for filing of documentation

Equipment for use in potentially explosive atmospheres

Directive 2014/34/EU

Certificate Number:	**DTI 2017-1-0239A**
Equipment:	**Bucket elevators**
Type:	**E-series**
Model / Order no.:	**E80, E130, E180, E230, E280, E370, E450, E900, ES 181, ES 182, ES 183**
Manufacturer:	**Crocus v/Ejvind Møller**
Address:	**Virkevangen 25, Assentoft** **8960 Randers SØ** **Denmark**

The marking of the equipment or protective system shall include the following:

II 2D
Ex h IIIB T110°C Db
-20°C ≤ Ta ≤ 60°C

The storage takes place, acc. Directive 2014/34 / EU of 26 February 2014 Article 13, 1, b), ii) dealing with storage of the technical documentation acc. Annex VIII, section 2 and for forwarding of this documentation to a Notified Body. The certificate confirms the receipt and storage of the technical documentation received from the certificate holder.

It was not verified and without responsibility of Technological Institute whether the documentations and marking are correct, complete or according to the requirements in the Directive 2014/34/EU.

The receipt documentation is storage in confidential report.

Description of receipt documentation: One binder.

Technological Institute
Certification & Inspection

2017-02-28

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Safety regulations

Please observe the following safety regulations for prevention of accidents.

A lockable electronic cut-off switch must be installed.

Turn off and lock the electronic switch during inspection / repair of the counterflow cooler.

Replace the inspection hatch, cover and casing immediately following inspection / repair, even when the counterflow cooler is not in use.

Clutch and reverse brake safety-guards must always be in place during operation.

All electrical installation / repair must be carried out according to the regulations applicable for high voltage installations and should be carried out by an authorised electrician.

Technical description

1. Usage

Crocus bucket elevators are designed for the transport of cereals, granulates and /or powders in the agricultural sector, primarily corn and feedstuffs and breweries etc.

Crocus bucket elevator is manufactured in an industrial design that ensures operational reliability and long product life.

2. Function

The bucket elevator is driven by an electric motor and the effect is transmitted directly to the axel and the belt drive wheel, via the axel gear.

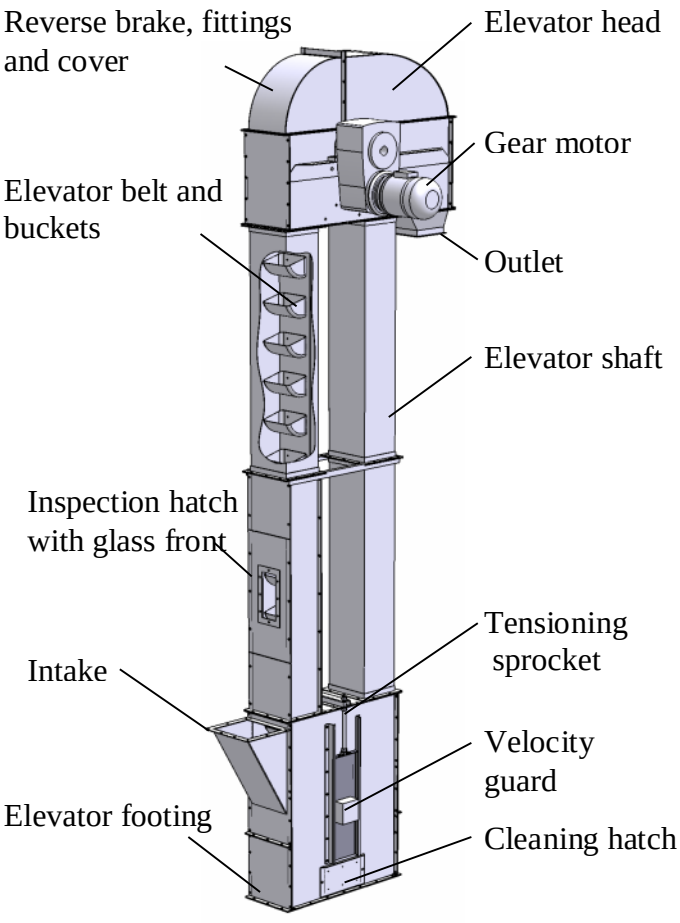
Alternatively, the elevator can be equipped with a gear motor and the effect is transmitted to the axel and the belt drive wheel, via the coupling.

The transported material is conducted into the buckets through the intake in the elevator footing and forced through the outlet by centrifugal force.

The elevator design allows placement of the intake on both sides of the elevator footing.

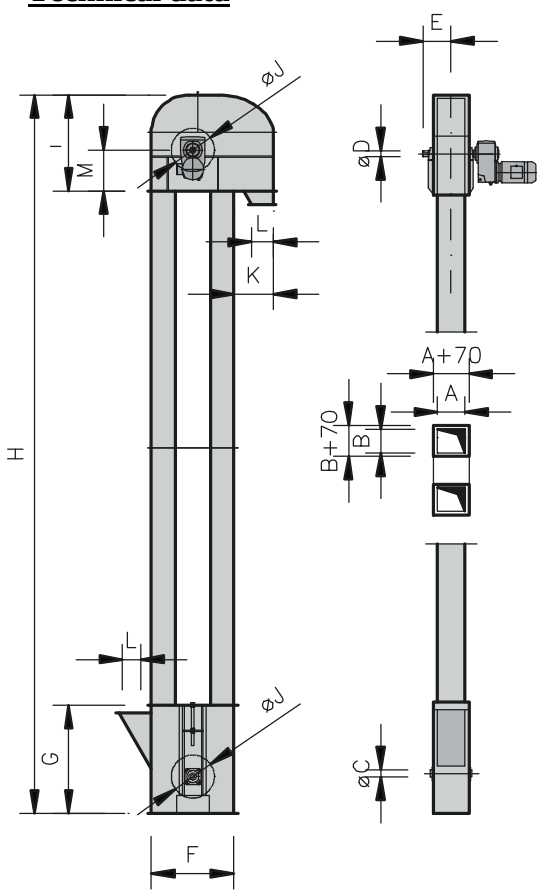
Accessories include a velocity guard to monitor the speed and stability with which the belt revolves.

In addition, the elevator can be fitted with a reverse brake, adaptor for dust extraction, strain relief and oil resistant belt.



Bucket elevator

Technical data



Type	E130	E180	E280	E370	E450	E740	E900
A	190	260	365	500	600	950	1200
B	190	220	250	340	325	350	350
C	ø30	ø30	ø50	ø60	ø60	ø70	ø70
D	ø40	ø50	ø70	ø100	ø100	ø110	ø135
E	175	280	350	420	500	680	780
F	643	770	954	1250	1250	1470	1470
G	750	1008	1206	1420	1450	1750	1750
H	-	-	-	-	-	-	-
I	750	900	1200	1540	1400	1650	1650
J	ø315	ø385	ø500	ø630	ø630	ø800	ø800
K	300	380	550	650	670	690	690
L	160	200	300	300	400	500	550
M	300	385	580	700	700	850	850

Output calculation:

Directly coupled gear motor:

$$\text{Output (kW)} \geq \frac{K \times (H + 10) \times 1{,}15}{347}$$

K = Capacity (t/h)
H = Height (meter)

Type	E130	E180	E280	E370	E450	E740	E900
Capacity δ = 0,7 t/m³ 18% H_2O (t / h)	20-40	40-80	80-160	160-300	230-340	340-500	500-650
Plate thickness: Wear plate top (mm) Head and footings (mm) Shaft (mm)	 3 2-3 1,5	 4 2-3 1,5	 5 3-4 1,5	 5 3-4 2	 6 4-5 2,0	 8 5 2	 8 5 2
Buckets type S Max. number / meter	S130 12	S180 10,5	S280 9	S370 7	S450 7	S740 7	2xS450 7
Belt width (mm)	150	200	300	400	500	800	1000

We reserve the right of amendment

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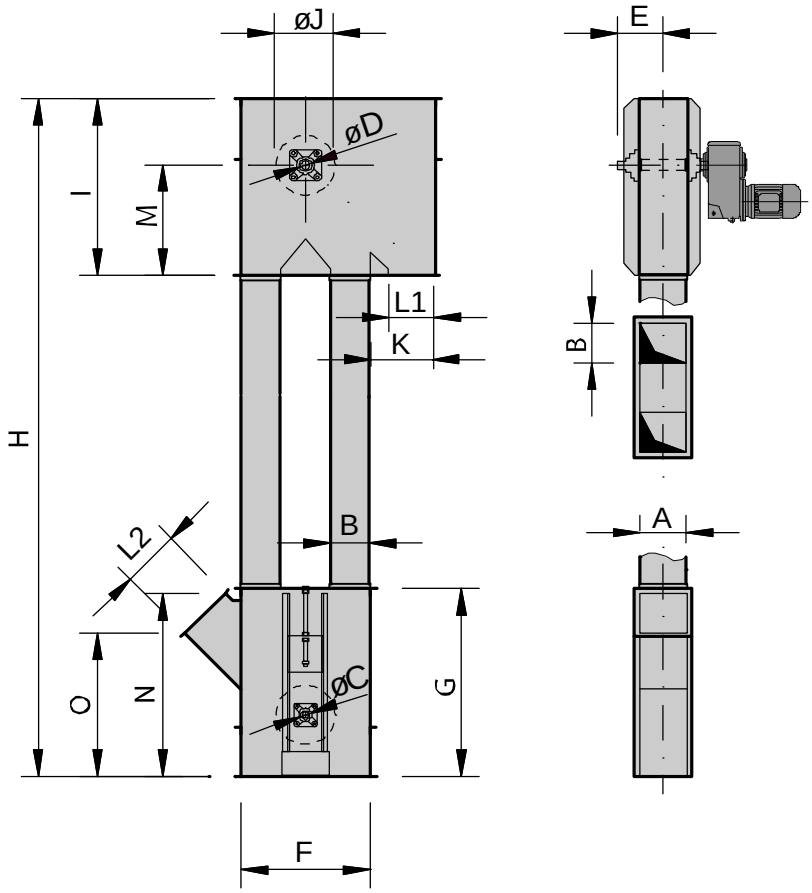
Bucket elevator

Technical data

Type	ES181	ES182	ES183
A	260	460	660
B	220	220	220
C	ø30	ø30	ø40
D	ø50	ø50	ø70
E	273	373	473
F	711	711	711
G	1026	1026	1026
H	-	-	-
I	963	963	963
J	ø325	ø325	ø325
K	360	360	360
L_1	262	262	262
L_2	300	300	300
M	597	597	597
N	1001	1004	1004
O	785	785	785



Power calculation:

Gear motor:

$$\text{Power (kW)} \geq \frac{K \times (H + 10) \times 1{,}15}{347}$$

K = Capacity (t/h)
H = Height (meter)

Type		ES181	ES182	ES183
Capacity δ = 0,7 t/m³ 18% H_2O	(t / h)	40	80	120
Thickness:				
Wear plate head	(mm)	4	4	4
Head and foot	(mm)	2-3	2-3	2-3
Pipe	(mm)	1,5	1,5	1,5
Buckets	type S	N180	N180	N180
	Max. no / m	8,5	8,5	8,5
Belt width	(mm)	200	400	600

We reserve the right of amendment

Operating instructions

The bucket elevator must not be overloaded.

The elevator should always be emptied before stopping.

Should a breakdown occur, the elevator should be emptied to the extent possible before restarting in order to avoid damage to belt and buckets.

If the elevator is stopped by the velocity guard, monitoring belt speed and stability, check the belt tension and that the belt is correctly placed on the belt drive wheel.

Maintenance guide

1. Elevator belt

Check that the elevator belt is correctly tightened and that the belt is correctly positioned on the drive wheel.

All new belts should be tightened after the first 50 hours operation.

Following this, the elevator belt should be checked and the tension adjusted for every 500 hours in operation.

For every 2000 hours in operation, and at least once a year, the belt should be checked for the development of cracks and the buckets for damage and loose or missing bolts.

2. Gear / Gear motor

Check the oil level in the gear before start.

New gears are supplied with synthetic oil. It is recommended that the oil be changed after the first 10.000 hours of operation.

Oil change intervals are recommended for every 20.000 hours of operation, or every 4th year.

See the gear manufacturers instructions on the following pages for further information.

The gear motor may be cleaned for dust and dirt with compressed air.

3. Lubrication

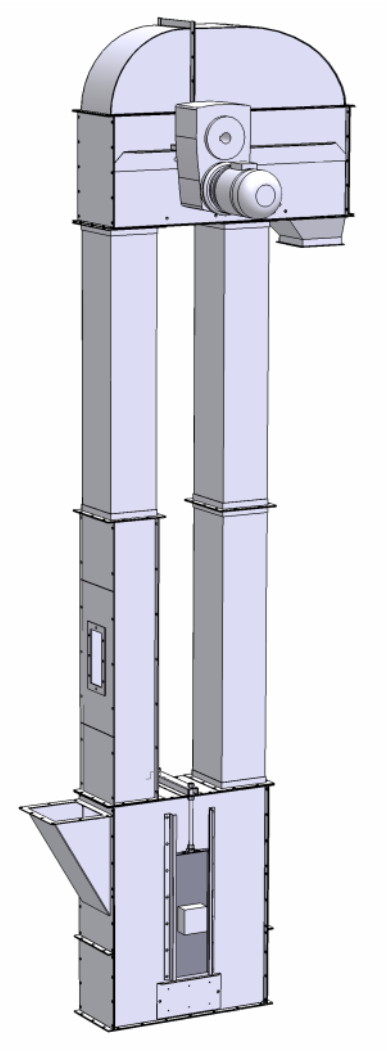
The bucket elevators bearings are equipped with a lubrication nipple that should be lubricated with 2 “squirts” of 1,5 g. twice yearly, with 24 hour operation.

Bearings should be kept clean of dirt and dust.

Bucket elevator

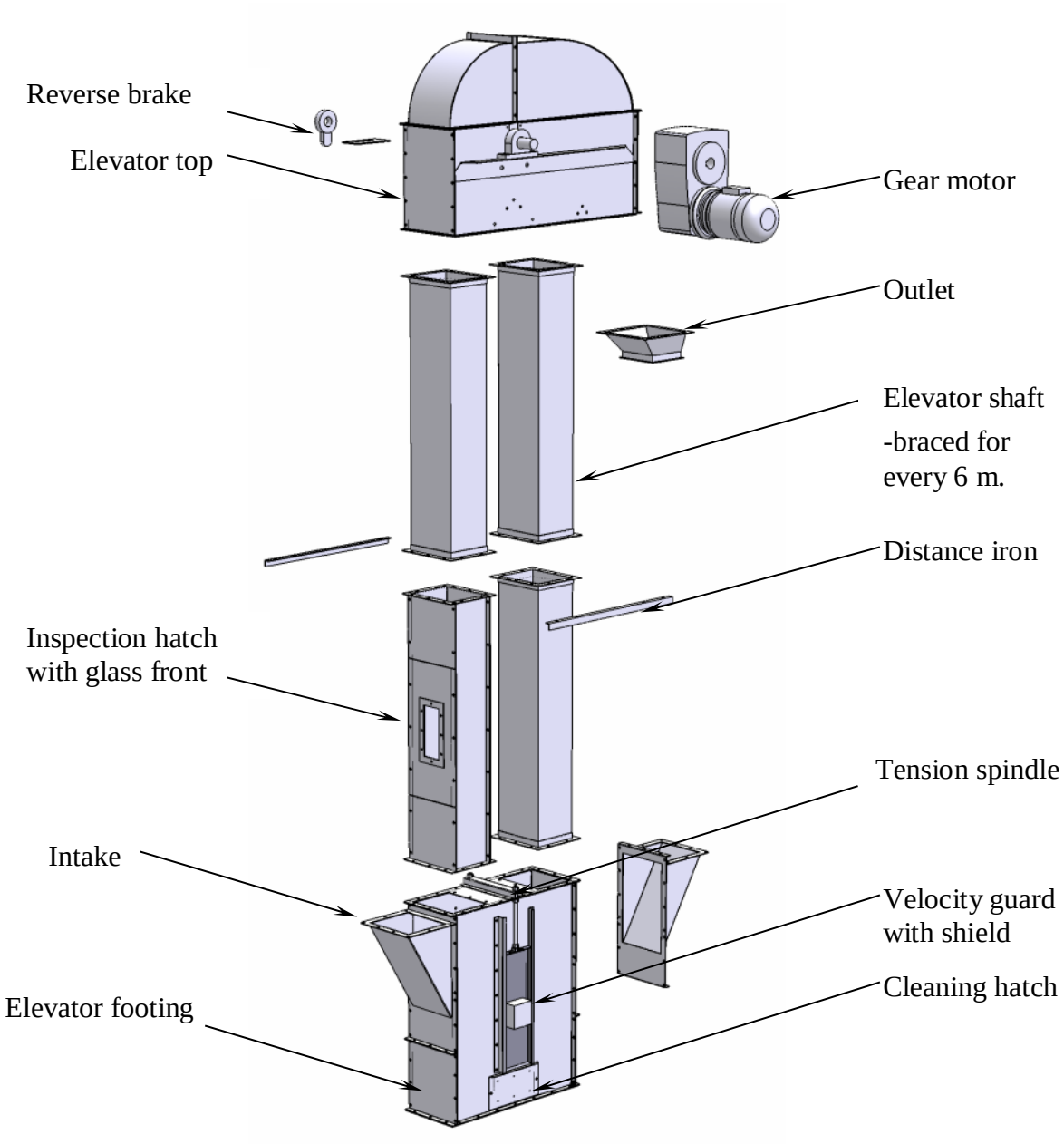
Assembly instructions

Contents



Bucket elevator

Elevator description



Bucket elevator

Elevator assembly

1. The elevator must be erected on a flat surface, alternatively on a frame.
   The base must be vertically supported in all four corners.

2. The elevator shafts should be assembled in pairs with distance irons at each joint.

   Joints should be sealed with sealant.

   The inspection hatch may be placed where most practical.

   If practicable, the elevator head may be raised in tact with elevator shaft assembly.

   Bolts must be tightened immediately after assembly.

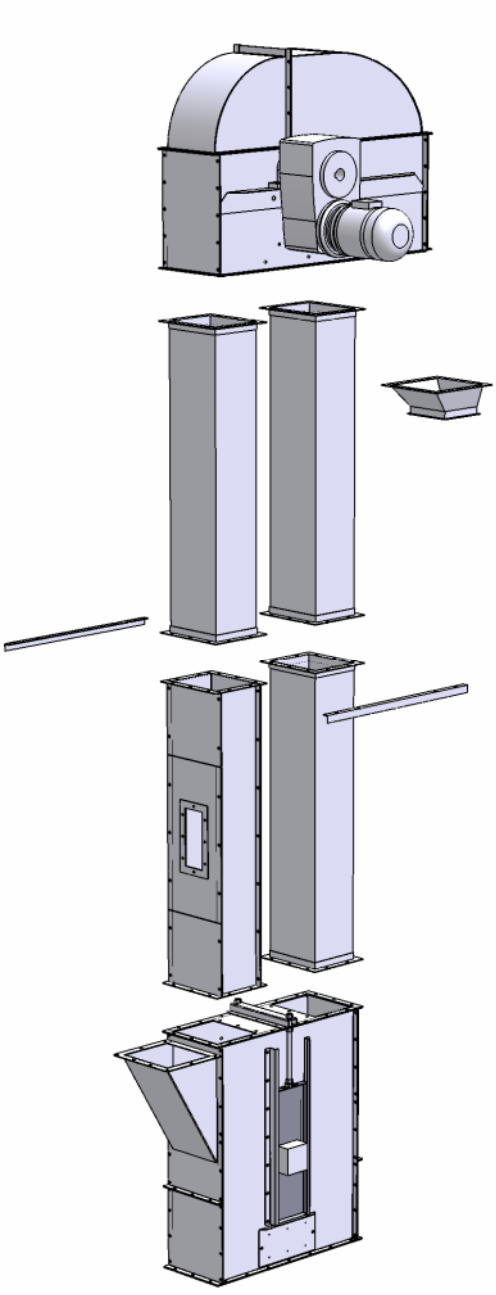
3. Erection and stabilisation

   The elevator must stand perpendicular, use a plunb line to check. Tolerance ± 4 mm.

   The elevator should be horizontally stabilised for every 6 meters, at the top and footings.

   The base must be vertically supported in all four corners. Elevators in excess of 20 m. in height must be supported such that the elevator shafts are not subject to pressure from the main axel.

   Where an elevator has 3 reinforced shaft sections, the top 3 meters may be assembled without being horizontally stabilised.



4. Assembly of belt and buckets

Remove the inspection hatch.

The belt drive wheel, in the footing, must be raised from the lowest position.

Remove the top of the elevator head.

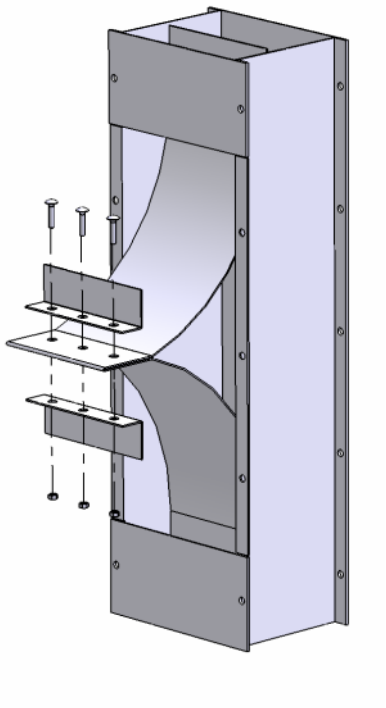
Assemble the belt.

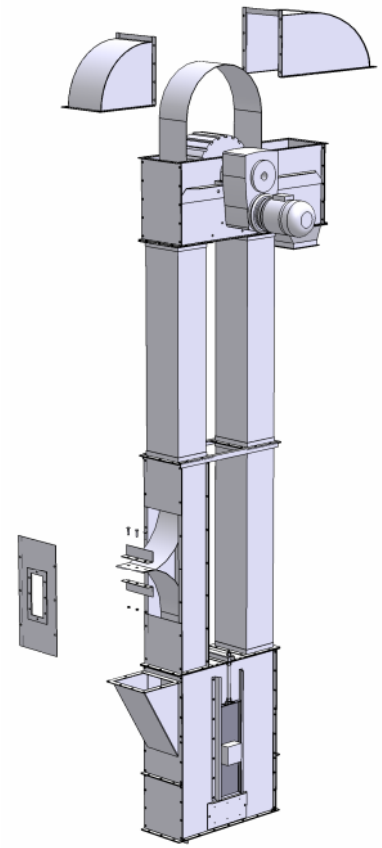
Check that the belt runs correctly and freely through the elevator shafts.

The belt must run tight and straight. Draw the ends of the belt together using the belt tensioner or tackle.

Once the belt is assembled, mount the buckets with bolts and washers.

Tighten the belt and check that it runs true on the belt drive wheel.





5. Velocity guard and reverse brake

The velocity guard must be mounted on the supplied fitting.

Check the direction that the belt revolves in before mounting the reverse brake.

Adjust the dispersion plate in the elevator head to approx. 15 mm. from the front edge of the elevator buckets.

6. In General

Check the following:

That the elevator stands perpendicular, and that it is supported so that it is stable and safe.

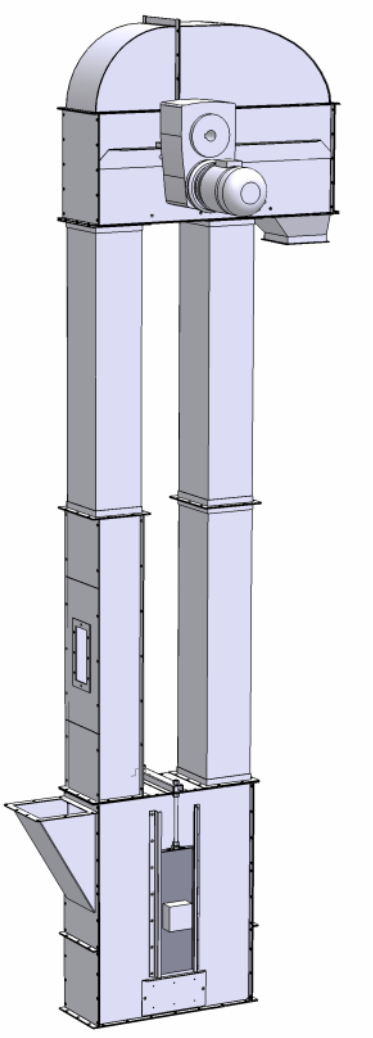
The belt runs true on the drive wheel.

All nuts and bolts in the buckets, belt and elevator must be tightened.

The gear motor is lubricated with oil.

Remove the ventilation plug for the gear motor.

All flange joints must be airtight.



Item list – spare-parts list
Type E80

Pos.	Number of items	Part name	No.
		Elevator footing	
F 1	2	Side plate	39-201
F 2	1	Top plate	39-403
F 3	2	Inner plate for tensioning section	39-232
F 4	2	Guide for tensioning plate	39-233
F 5	2	Tensioning plate	39-231
F 6	2	Top plate for Tightening spindles	39-256
F 7	2	Screw fitting	39-246
F 8	2	Tightening spindles M12 x 140mm	39-241
F 9	1	Gable plate	39-221
F 10	1	Lower gable plate	39-211
F 11	2	Cleaning hatch	39-227
F 12	2	Support for cleaning hatch	39-228
F 13	1	Plate for inlet	39-404
F 14	2	Side plate for inlet	39-401
F 15	2	End plate for footing	39-261
F 16	2	Footing	39-251
F 17	1	Q16 inlet	39-420
F 18	1	Axel – ø25 x 240 mm. incl. -M8 x 20 mm. at both ends	39-570
	2	Flange bearings FWS 25A	
	52	Screws, set –M8 x 16 mm. (zinc-coated)	
		Elevator top	
T 1	2	Side plate	39-101
T 2	2	Gable plate	39-106
T 3	1	Top plate	39-111
T 4	1	L-shaped plate with dispersion plate	39-136
T 5	2	Reinforcement	39-126
T 6	1	Console for motor	39-141
T 7	1	Axel (SK1S150)	39-581
T 8	2	Bearings FWS 40-A	
	1	Gear motor/transmission (see machine list)	
	36	Screws, set –M8 x 16 mm. (zinc-coated)	
	8	Screws, set –M12 x 35 mm. for bearings (zinc-coated)	

Bucket elevator

Pos.	Number of items	Part name	No.
		Elevator schafts	
		Elevator schaft 2430 mm.	39-300
		Elevator schaft with inspection hatch	(39-305)
		Elevator belt and buckets	
	1	Elevator belt (see machine list)	
		Elevatorbecher – Jet 08-080	

Item list – spare-parts list
Type E130

Pos.	Number of items	Part name	No.
		Elevator footing	
F 1	2	Side plate	41-009
F 2	1	Top gable plate	41-010
F 3	1	Plate between shafts	41-011
F 4	4	Guide for tensioning plate	41-012
F 5	2	Tensioning plate	41-013
F 6	2	Lowest gable plate	41-014
F 7	2	Round plate	41-015
F 8	2	Cleaning hatch	41-016
F 9	1	Axel – ø30 x 305 mm. with	
		-M10 x 20 mm. At both ends	
	2	Flange bearings FWS 30-A	
	2	Tightening spindles –M16 x 190 mm.	
	80	Screws, set –M8 x 16 mm. (zinc-coated)	
		Elevator top	
T 9	1	Side plate	41-001
T 10	1	Side plate	41-002
T 11	1	Gable plate	41-003
T 12	1	Gable plate – front	41-004
T 13	1	Top plate	41-005
T 14	1	Cover plate between shafts	41-006
T 15	1	L-shaped plate with dispersion plate	41-007
T 16	2	Stabiliser	41-008
T 17	1	Belt drive wheel (see machine list)	41-019
	1	Axel	
	2	Bearings FWS 40-A	
	1	Gear motor/transmission (see machine list)	
	70	Screws, set –M8 x 16 mm. (zinc-coated)	
	8	Screws, set –M12 x 35 mm. for bearings (zinc-coated)	
		Elevator shafts	
		Elevator shaft 190 x 190 x 2500 mm.	41-030
		Elevator shaft with inspection hatch	41-031
		Distance iron (2 pieces pr. joint)	41-032
		Elevator belt and buckets	
	1	Elevator belt (see machine list)	
		Elevator buckets – S130	

Item list – spare-parts list
Type E130

Pos.	Number of items	Part name	No.
		Accessories	
		Reverse brake (see machine list)	
		Velocity guard (see machine list)	
		Fittings for velocity guard	
		Stability guard (see machine list)	
		Supports (see machine list)	
		Inspection platform (see machine list)	
		Cover – gear motor (see machine list)	

Item list – spare-parts list
Type E180

Pos.	Number of items	Part name	No.
		Elevator footing	
F 1	2	Side plate	42-001
F 2	1	Top gable plate	42-003
F 3	1	Intake funnel	42-004
F 4	2	Middle gable plate	42-005
F 5	2	Lowest gable plate	42-006
F 6	2	Internal gliding plate	42-007
F 8	2	Distance plate	42-009
F 9	2	Tension spindle	42-010
F 10	1	Base plate	42-011
F 11	1	Cover plate – base section	42-012
F 13	2	Angled plate – base	42-013
F 14	2	Cleaning hatch	42-014
F 15	1	Belt drive wheel	42-029
	1	Axel ø40 x 376 mm. with –M10 x 20 at both ends	42-049
	2	Flange bearings FWS 30-A	
	2	Tension spindle M16 x 320 mm.	
	66	Screws, set – M10 x 16 mm. (zinc-coated)	
		Elevator top	
T 1	2	Side plate – elevator top	42-015
T 2	2	Gable plate – top	42-017
T 3	1	Rear top element	42-018
T 4	1	Front top element	42-020
T 5	1	Triangular plate with outlet	42-022
T 6	1	Triangular plate between shafts	42-023
T 7	1	Outlet	42-024
T 8	1	Dispersion plate	42-025
T 9	1	Belt drive wheel	42-028
	1	Axel (see machine list)	
	1	Gear motor/transmission (see machine list)	
	2	Bearings SW 50-A	
	96	Screws, set – M10 x 16 mm. (zinc-coated)	
	4	Bolts – M20 x 55 mm. for bearings	
	4	Screws, set – M6 x 20 mm. for sealing plate	
T 10	2	Sealing plate at axel	42-055
T 11	2	Felt washers at axel	42-056

Item list – spare-parts list
Type E180

Pos.	Number of items	Part name	No.
		Elevator shaft	
		Elevator shaft 220 x 260 x 2500 mm.	42-058
		Elevator shaft with inspection hatch	42-059
		Distance iron	42-060
		Elevator belt and buckets	
	1	Elevator belt (see machine list)	
	1	Elevator buckets, type S180	
		Accessories	
	1	Reverse brake (see machine list)	
	1	Velocity guard (see machine list)	
	1	Stability guard (see machine list)	
		Supports (see machine list)	
		Inspection platform (see machine list)	
		cover – gear motor (see machine list)	
	1	Elevator shaft – reinforced 2 mm. L = 2930 mm.	42-042
	54	Screws, set – M8 x 16 mm. pr. shaft	

Item list – spare-parts list
Type E280

Pos.	Number of items	Part name	No.
		Elevator footing	
F 1	2	Side plate	43-001
F 2	1	Cover plate – base section	43-004
F 3	1	Reinforcement for tension spindles	43-005
F 4	2	Bund plate	43-011
F 5	2	Clamp for nut – tension spindles	43-008
F 6	2	Top gable plate	43-009
F 7	2	Middle gable plate	43-010
F 8	2	Lowest gable plate	43-007
F 9	2	Angled plate – base	43-012
F 10	2	Regulation plate for bearings in base	43-013
F 11	2	Tensioning plate – base	43-014
F 12	2	Internal gliding plate	43-015
F 13	1	Axel ø50 x 512 mm. with	43-016
		-M10 x 20 mm. at both ends	
F 14	2	Flange bearings FWS 50-A	
F 15	2	Tension spindles – M20 x 475 mm.	43-017
F 16	2	Cleaning hatch in base	43-018
F 17	1	Intake – 300 x 300 mm. (Q-30)	43-042
	142	Screws, set – M10 x 20 mm. (zinc-coated)	
		Elevator top	
T 1	2	Side plate – elevator top	43-020
T 2	2	Supporting beam for bearings– top	43-021
T 3	2	Gable plate – top	43-022
T 4	1	Rear top section	43-023
T 5	1	front top section	43-025
T 6	1	Cover between shafts	43-027
T 7	1	Triangular plate at outlet	43-028
T 8	1	Dispersion plate at outlet	43-033
T 9	1	Axel (see machine list)	
T 10	2	Bearing pillow block SW 70-A	
T 12	2	Belt drive wheel	43-030
T 13	2	Sealing plate	43-034
T 14	1	Gear motor/transmission (see machine list)	43-038
	112	Screws, set –M20 x 20 mm. (zinc-coated)	
	8	Screws, set – M6 x 20 mm. for sealing plate	

Item list – spare-parts list
Type E280

Pos.	Number of items	Part name	No.
		Elevator shaft	
		Elevator shaft 250 x 365 x 2500 mm.	43-039
		Distance iron (2 pr. joint)	43-041
		Elevator shaft with inspection hatch	43-040
		Elevator belt and buckets	
	1	Elevator belt (see machine list)	
	1	Elevator buckets, type S280	
		Accessories	
	1	Reverse brake (see machine list)	
	1	Velocity guard (see machine list)	
	1	Stability guard (see machine list)	
		Supports (see machine list)	
		Inspection platform (see machine list)	
		Cover – gear motor (see machine list)	

Item list – spare-parts list
Type E370

Pos.	Number of items	Part name	No.
		Elevator footings	
F 1	2	Side plate	44-001
F 2	1	Cover plate – base section	44-004
F 3	1	Reinforcement for tension spindles	44-005
F 4	2	Base plate	44-011
F 5	2	Clamp for nut – tension spindles	44-008
F 6	1	Top gable plate	44-009
F 7	2	Middle gable plate	44-010
F 8	2	Lowest gable plate	44-007
F 9	2	Angled plate – base	44-012
F 10	2	Regulation plate for bearings in base	44-013
F 11	2	Tensioning plate – base	44-014
F 12	2	Internal gliding plate	44-015
F 13	1	Axel ø50 x 645 mm. with –M10 x 20 at both ends	44-016
F 14	2	Flange bearings FWS 50-A	
F 15	2	Tension spindles – M20 x 500 mm.	44-017
F 16	2	Cleaning hatch in base	44-018
F 17	1	Intake – 300 x 300 mm. (Q-30)	44-042
	160	Screws, set –M10 x 20 mm. (zinc-coated)	
		Elevator top	
T 1	2	Side plate – elevator top	44-020
T 2	2	Supporting beam for bearings– top	44-021
T 3	2	Gable plate – top	44-022
T 4	1	Rear top section	44-023
T 5	1	Front top section	44-025
T 6	1	Cover between shafts	44-027
T 7	1	Triangular plate at outlet	44-028
T 8	1	Dispersion plate at outlet	44-033
T 9	1	Axel (see machine list)	
T 10	2	Steel bearings Sw 80-A	
T 11	1	Belt drive wheel	44-030
T 12	2	Sealing plate at axel	44-034
T 13	1	Gear motor/transmission (see machine list)	
	2	Felt washer at axel	44-038
	132	Screws, set –M10 x 20 mm. (zinc-coated)	
		Elevator shaft	
	1	Elevator shaft (see machine list)	
	1	Distance iron (see machine list)	

Item list – spare-parts list
Type E370

Pos.	Number of items	Part name	No.
		Elevator belt and buckets	
	1	Elevator belt (see machine list)	
	1	Elevator buckets, type 330	
		Accessories	
	1	Reverse brake (see machine list)	
	1	Velocity guard (see machine list)	
	1	Stability guard (see machine list)	
		Supports (special) (see machine list)	
		Inspection platform (see machine list)	
		Cover – gear motor (see machine list)	

Item list – spare-parts list
Type ES181

Pos.	Number of items	Part name	No.
		Elevator footing	
F 1	2	Side plate	45-001
F 2	1	Top gable plate	45-003
F 3	1	Intake funnel	45-004
F 4	2	Middle gable plate	45-005
F 5	2	Lowest gable plate	45-006
F 6	2	Internal gliding plate	45-007
F 8	2	Distance plate	45-009
F 9	2	Tension spindle	45-010
F 10	1	Base plate	45-011
F 11	1	Cover plate – base section	45-012
F 13	2	Angled plate – base	45-013
F 14	2	Cleaning hatch	45-014
F 15	1	Belt drive wheel	45-029
	1	Axel ø40 x 576 mm. with –M10 x 20 at both ends	45-049
	2	Flange bearings FWS 30-A	
	2	Tension spindle M16 x 320 mm.	
	66	Screws, set – M10 x 16 mm. (zinc-coated)	
		Elevator top	
T 1	2	Side plate – elevator top	45-015
T 2	2	Gable plate – top	45-017
T 3	1	Rear top element	45-018
T 4	1	Front top element	45-020
T 5	1	Triangular plate with outlet	45-022
T 6	1	Triangular plate between shafts	45-023
T 7	1	Outlet	45-024
T 8	1	Dispersion plate	45-025
T 9	1	Belt drive wheel	45-028
	1	Axel (see machine list)	
	1	Gear motor/transmission (see machine list)	
	2	Bearings FWS 50-A	
	96	Screws, set – M10 x 16 mm. (zinc-coated)	
	8	Bolts – M12 x 55 mm. for bearings	
	4	Screws, set – M6 x 20 mm. for sealing plate	
T 10	2	Sealing plate at axel	45-055
T 11	2	Felt washers at axel	45-056

Item list – spare-parts list
Type ES181

Pos.	Number of items	Part name	No.
		Elevator shaft	
		Elevator shaft 220 x 260 x 2500 mm.	45-058
		Elevator shaft with inspection hatch	45-059
		Distance iron	45-060
		Elevator belt and buckets	
	1	Elevator belt (see machine list)	
	1	Elevator buckets, type EJE 18-140	
		Accessories	
	1	Reverse brake (see machine list)	
	1	Velocity guard (see machine list)	
	1	Stability guard (see machine list)	
		Supports (see machine list)	
		Inspection platform (see machine list)	
		cover – gear motor (see machine list)	
	1	Elevator shaft – reinforced 2 mm. L = 2930 mm.	45-042
	54	Screws, set – M8 x 16 mm. pr. shaft	

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Item list – spare-parts list
Type ES182

Pos.	Number of items	Part name	No.
		Elevator footing	
F 1	2	Side plate	46-001
F 2	1	Top gable plate	46-003
F 3	1	Intake funnel	46-004
F 4	2	Middle gable plate	46-005
F 5	2	Lowest gable plate	46-006
F 6	2	Internal gliding plate	46-007
F 8	2	Distance plate	46-009
F 9	2	Tension spindle	46-010
F 10	1	Base plate	46-011
F 11	1	Cover plate – base section	46-012
F 13	2	Angled plate – base	46-013
F 14	2	Cleaning hatch	46-014
F 15	1	Belt drive wheel	46-029
	1	Axel ø40 x 576 mm. with –M10 x 20 at both ends	46-049
	2	Flange bearings FWS 30-A	
	2	Tension spindle M16 x 320 mm.	
	66	Screws, set – M10 x 16 mm. (zinc-coated)	
		Elevator top	
T 1	2	Side plate – elevator top	46-015
T 2	2	Gable plate – top	46-017
T 3	1	Rear top element	46-018
T 4	1	Front top element	46-020
T 5	1	Triangular plate with outlet	46-022
T 6	1	Triangular plate between shafts	46-023
T 7	1	Outlet	46-024
T 8	1	Dispersion plate	46-025
T 9	1	Belt drive wheel	46-028
	1	Axel (see machine list)	
	1	Gear motor/transmission (see machine list)	
	2	Bearings FWS 50-A	
	96	Screws, set – M10 x 16 mm. (zinc-coated)	
	8	Bolts – M12 x 55 mm. for bearings	
	4	Screws, set – M6 x 20 mm. for sealing plate	
T 10	2	Sealing plate at axel	46-055
T 11	2	Felt washers at axel	46-056

Item list – spare-parts list
Type ES182

Pos.	Number of items	Part name		No.
		Elevator shaft		
		Elevator shaft 220 x 460 x 2930 mm.		46-058
		Elevator shaft with inspection hatch		46-059
		Distance iron		46-060
		Elevator belt and buckets		
	1	Elevator belt	(see machine list)	
	2	Elevator buckets, type EJE 18-140		
		Accessories		
	1	Reverse brake	(see machine list)	
	1	Velocity guard	(see machine list)	
	1	Stability guard	(see machine list)	
		Supports	(see machine list)	
		Inspection platform	(see machine list)	
		cover – gear motor	(see machine list)	

Item list – spare-parts list
Type ES183

Pos.	Number of items	Part name	No.
		Elevator footing	
F 1	2	Side plate	47-001
F 2	1	Top gable plate	47-003
F 3	1	Intake funnel	47-004
F 4	2	Middle gable plate	47-005
F 5	2	Lowest gable plate	47-006
F 6	2	Internal gliding plate	47-007
F 8	2	Distance plate	47-009
F 9	2	Tension spindle	47-010
F 10	1	Base plate	47-011
F 11	1	Cover plate – base section	47-012
F 13	2	Angled plate – base	47-013
F 14	2	Cleaning hatch	47-014
F 15	1	Belt drive wheel	47-029
	1	Axel ø50 x 838 mm. with –M10 x 20 at both ends	47-049
	2	Flange bearings FWS 40-A	
	2	Tension spindle M16 x 320 mm.	
	66	Screws, set – M10 x 16 mm. (zinc-coated)	
		Elevator top	
T 1	2	Side plate – elevator top	47-015
T 2	2	Gable plate – top	47-017
T 3	1	Rear top element	47-018
T 4	1	Front top element	47-020
T 5	1	Triangular plate with outlet	47-022
T 6	1	Triangular plate between shafts	47-023
T 7	1	Outlet	47-024
T 8	1	Dispersion plate	47-025
T 9	1	Belt drive wheel	47-028
	1	Axel (see machine list)	
	1	Gear motor/transmission (see machine list)	
	2	Bearings FWS 70-A	
	96	Screws, set – M10 x 16 mm. (zinc-coated)	
	8	Bolts – M16 x 55 mm. for bearings	
	4	Screws, set – M6 x 20 mm. for sealing plate	
T 10	2	Sealing plate at axel	47-055
T 11	2	Felt washers at axel	47-056

Item list – spare-parts list
Type ES183

Pos.	Number of items	Part name	No.
		Elevator shaft	
		Elevator shaft 220 x 660 x 2930 mm.	47-058
		Elevator shaft with inspection hatch	47-059
		Distance iron	47-060
		Elevator belt and buckets	
	1	Elevator belt (see machine list)	
	3	Elevator buckets, type EJE 18-140	
		Accessories	
	1	Reverse brake (see machine list)	
	1	Velocity guard (see machine list)	
	1	Stability guard (see machine list)	
		Supports (see machine list)	
		Inspection platform (see machine list)	
		cover – gear motor (see machine list)	