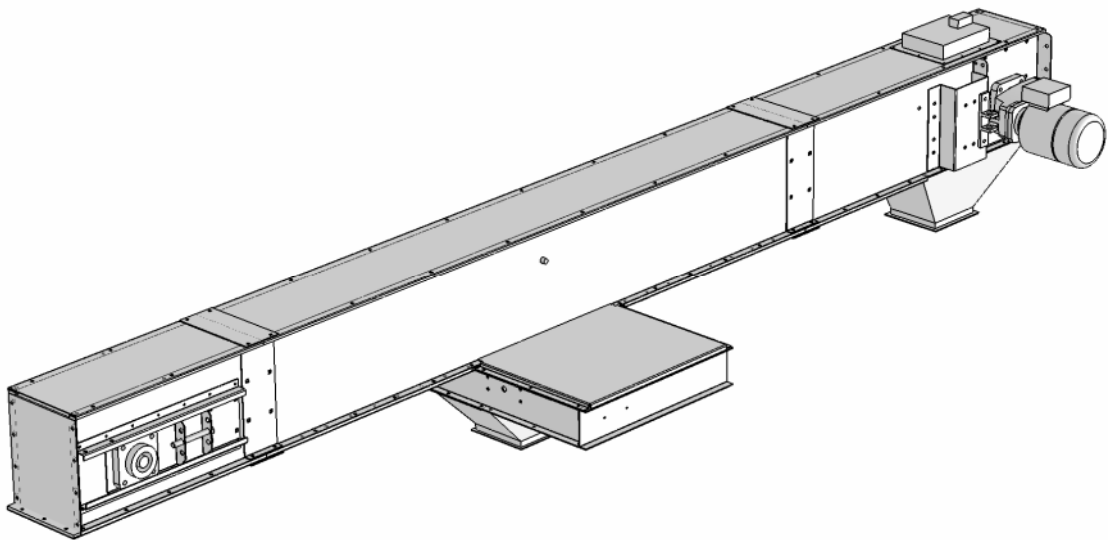


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## INSTRUCTION MANUAL



## CHAIN CONVEYOR

# Chain Conveyor

---

## **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 label, giving fabrication details.

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# Chain Conveyor

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## EU – certificate of agreement

**Manufacturer:**

Crocus I/S  
Virkevangen 25  
Assentoft  
DK-8960 Randers SØ

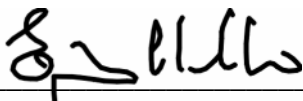
Hereby declare that this machine

Type: Crocus chain conveyor

Model: **K40, K60, K100, K40K, K60K, K100/K60K, K100K, K150K  
K100S, K150, K200, K300, K400 & K600**

is manufactured according to regulations in EU-directive from 14<sup>th</sup> June 1989 about mutual rapprochement of the legislation in each member country concerning machines (89/392/EØF) specially referring to the directorates appendix 1 regarding essential security – and health requirements relating to construction and manufacturing 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 2017-1-0235A**  
Equipment: **Chain conveyors**  
Type: **K - series**  
Models.: **K40, K60, K60S, K100, K100S, K150, K200,  
K300, K400, K600**  
Manufacturer: **Crocus v/ Ejvind Møller**  
Address: **Virkevungen 25, Assentoft  
8960 Randers SØ**

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

2017-01-02

**Steen Christensen**  
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DK-8000 Århus C  
Denmark

Tel. +45 72 20 10 00  
Fax +45 72 20 10 19  
www.teknologisk.dk

# Chain Conveyor

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## **Safety regulations**

Please observe the following safety regulations for prevention of accidents.

The chain conveyor must be equipped with an electronic safety cut-off switch.

Turn off and lock the electronic switch during inspection / repair of the chain conveyor.

Replace the top cover and casing immediately following inspection / repair even when the conveyor is not in use.

The clutch safety-guard 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.

# Chain Conveyor

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## Technical description

### **1. Usage**

Crocus chain conveyors are manufactured in an industrial design, which guarantees efficient conveyance of cereals and meal products for the seed and foodstuff industry, breweries, agriculture and other industrial usage.

### **2. Function**

The chain conveyor is driven by a gear motor which effect is transmitted to the drive sprocket by a flexible coupling or a helical mounted gear shaft. (The latter is standard).

Material is conducted through an inlet placed in the top cover or via inclined inlets in the side plates and is conducted along the conveyor by means of scraper chains on an outlet conveyor slide or an outlet hopper.

When an outlet conveyor slide is in the closed position it forms a bottom plate, level with the fixed bottom plate.

If the outlet is blocked –the silo is full - the material is transported further along to the motor section, where a safety switch stops the machine.

Inlets may be positioned arbitrarily in the top plate or as side inlets on both sides of the conveyor. Likewise, the number of outlets that may be fitted is governed by the physical space available.

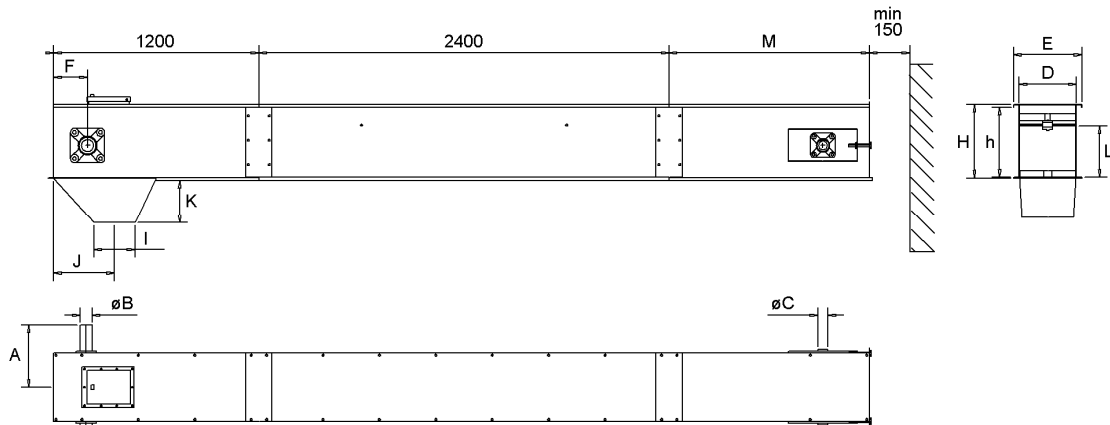
The chain conveyor may be fitted with an intermediate base plate and a capacity regulation shutter allowing constant dosage of a fixed volume. Furthermore, the system enables transport and distribution of material to the outlet from the entire length of the conveyor irregardless of the inlet position/s. Reversible operation is possible. The bottom plate and shutter plates are fitted with nylon plate to reduce wear.

The conveyor may be fitted with a suction point enabling connection of a dust extraction unit, or directly fitted with a filter and ventilator.

See page 601 for technical data/details.

# Chain Conveyor

## Technical data



Type	A	B	C	D	E	F	H	h	I	J	K	L	M
K40	290	ø50	ø30	230	300	260	330	310	200	330	220	180	750
K60	290	ø50	ø30	230	300	260	380	360	200	330	220	215	750
K100	340	ø70	ø50	330	400	320	450	430	240	330	250	276	1200
K150	380	Ø90	Ø70	390	470	400	545	520	300	480	310	357	1200
K200	410	ø90	ø75	430	520	460	625	600	300	480	370	420	1200
K300	410	ø100	ø75	560	625	460	677	650	spec.	480	370	480	1200
K400	585	ø110	ø100	650	740	500	800	770	spec.	520	460	600	1200
K600	735	ø130	ø120	800	890	580	1100	1070	spec.	880	550	840	1200

## Effect calculation:

$$\text{Effect (kW)} \geq \frac{K \times (L + 5)}{544} + 0,37$$

K = Capacity (t/h)  
L = Length (m)

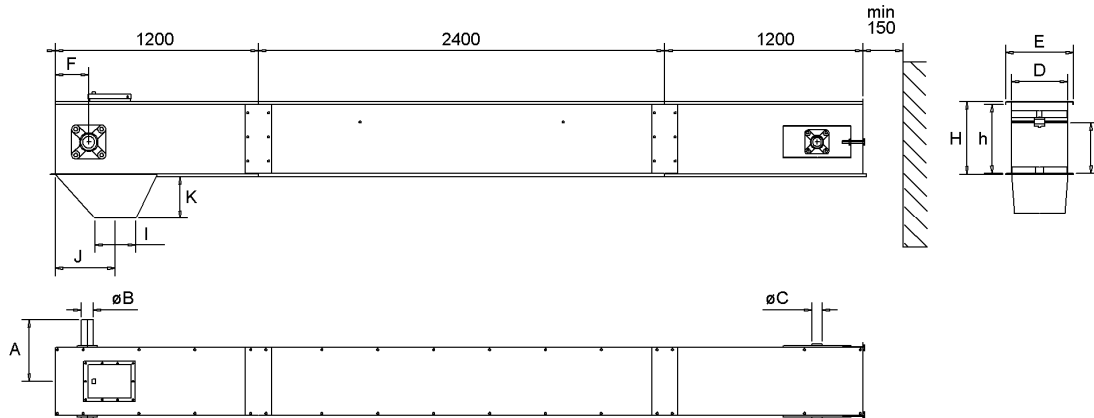
Type	K 40	K 60	K 100	K 150	K 200	K 300	K 400	K 600
Capacity with: Chain velocity = 0,50 m/s δ = 0,7 t/m³ Water content = 18%	40	60	100	150	200	300	400	600
Plate thickness head/side/base (mm)	2/2/3	2/2/3	2/3/4	3/3/4	3/3/4	3/4/5	3/4/6	3/4/6
Weight per m. empty/full (kg/m)	40/65	45/83	59/123	75/179	98/218	150/300	210/435	285/660
Chain type DIN 8165	35 x 5	35 x 5	40 x 6	45 x 6	50 x 8	50 x 8	60 x 8	70 x 10
Chain pitch/ teeth (mm) / (td)	100/7	100/8	125/8	125/10	160/9	160/10	160/12	200/15
Pitch diameter (mm)	230,5	261,3	326,6	404,5	467,8	517,8	618,2	961,9

We reserve the right of alteration.



# Chain Conveyor

## Technical data



	A	B	C	D	E	F	H	h	I	J	K	L
<b>K100 Spec.</b>	340	ø70	ø50	330	400	320	530	510	300	330	300	360

## Effect calculation:

K = Capacity (t/h)

L = Length (m)

$$\text{Effect (kW)} \geq \frac{K \times (L + 5)}{544} + 0,37$$

Type	K 100 Special
Capacity with: Chain velocity = 0,50 m/s δ = 0,7 t/m <sup>3</sup> Water content = 18%	150
Pl. thickness head/site/base (mm)	2/3/4
Weight per m, empty/full (kg/m)	63/146
Chain type DIN 8165	40 x 6
Chain pitch/ teeth (mm) / (td)	125/8
Pitch diameter (mm)	326,6

We reserve the right of alteration.

# Chain Conveyor

---

## **Operating instructions**

The chain conveyor must not be overloaded.

There must always be sufficient space in front of the motor section, to enable the plate with the safety switch to open.

If the chain conveyor stops due to overload, then the conveyor must be emptied in order to reset the safety switch.

# Chain Conveyor

---

## **Maintenance instructions**

### **1. Conveyor chain**

Check that the chain is appropriately tightened.

The chain is tightened by means of the 2 tensioning devices, that must be adjusted equally in both sides.

New chain conveyors must be checked and adjusted after 100 hours operation.

Following that – the chain should be checked and adjusted after every 1000 hours operation.

### **2. Gear / gear-motor**

Check oil levels before start.

New gears are supplied with synthetic oil. An oil change is recommended after the first 10.000 hours operation.

Following that – the oil should be changed for every 20.000 hours operation or every 4<sup>th</sup> year. Use synthetic oil only.

See the following pages for further information.

Clean dust from the gear motor, compressed air may be used.

### **3. Lubrication**

The bearings on the chain conveyor require lubrication. Apply 1,5 g. of lubricant twice a year. This is recommended for 24 hour operation.

Keep the bearings free of dust and dirt.

# Chain Conveyor

## Gear

### Schmierstoffe

Vor Inbetriebnahme und längerem Lager ist der Verschluss der Entlüftungsschraube zu entfernen, um einen Überdruck im Getriebe und damit mögliche Lecks zu vermeiden. Schmierstoffe sind für die Verwendung in der Erhaltung vorgesehen. Schmierstoffe aus der Spalte für die Umgebungstemperaturen (normal) der Schmierstofftafel. Für andere Umgebungstemperaturen sind die entsprechenden Schmierstoffe gegen Mehrpreis erhältlich.

Bei Befüllung mit Mineralöl soll ein Schmierstoffwechsel alle 10.000 Betriebsstunden oder nach zwei Jahren durchgeführt werden. Für synthetische Produkte verdoppeln sich diese Fristen. Bei extremen Betriebsbedingungen, z.B. hohe Luftfeuchtigkeit, aggressive Umgebung und hohe Temperaturschwankungen sind kürzere Schmierstoffintervalle vorteilhaft. Es ist empfehlenswert den Schmierstoffwechsel mit gründlicher Reinigung des Getriebes zu verbinden.

Bemerkung: Synthetische und mineralische Schmierstoffe nicht miteinander mischen! Das gilt auch für die Entsorgung.

### Lubricants

Before starting and before store-up for extended period, the seal in the vent plug must be removed in order to prevent excessive pressure build-up and oil leaks.

Gear units and geared motors leave the factory ready for operation filled with lubricant. All units shipped are filled with the normal lubricant listed in the ambient temperature column of the following chart. For other ambient temperatures the listed lubricants are available at an additional charge.

The mineral-oil lubricant should be changed every 10,000 service hours or latest after two years. For synthetic products, the lube should be changed every 20,000 service hours or after four years. In case of extreme operating conditions, e.g. high humidity, aggressive environment and large temperature variations, shorter intervals between changes are recommended. It is advisable to combine the lubricant change with thorough cleaning of the gear unit.

### Lubricants

Avant la mise en service et lors d'un stockage prolongé, il faut enlever la mèche du bouchon d'évent, pour éviter des fuites dues à une surpression à l'intérieur du réducteur.

Les réducteurs et motoréducteurs sont livrés prêts à fonctionner et remplis de lubrifiant selon la demande. Ces remplissages d'origine correspondent à un lubrifiant de la colonne -> température ambiante -> (normale) du tableau des lubrifiants. Pour toute autre température ambiante, les lubrifiants indiqués sont préconisés et livrables contre un supplément de prix.

Une vidange doit être réalisée toutes les 10.000 heures ou après 2 ans de fonctionnement. Ces délais sont doublés pour des produits synthétiques. Dans des conditions extrêmes, par exemple: hygrométrie élevée, ambiance agressive, ou variations importantes des températures, des intervalles réduits entre les vidanges sont préférables. Il est recommandé de profiter de la vidange pour faire un nettoyage approfondi du réducteur.

Remarque: Des lubrifiants synthétiques et minéraux ne doivent pas être mélangés ! Ceci s'applique également pour le retraitement des lubrifiants !

### Schmierstoffarten / Type of lubricant / Type de lubrifiant

Schmierstoff Type of lubricant Type de lubrifiant	Umgebungstemp. Ambient temp. Temp. ambiante	ARAL	BP	Castrol	DEA	ESB	FUCHS	KLÜBER Lubrication	Mobil	Optimol	Shell	Tribol
Mineralöl Mineral oil Huile minérale	ISO VG 680 0 ... 40°C	Deqol BG 680 Deqol BG 680 plus	Engel GR-XP 220	Alpha SP 680 Alpha SP 220 Alpha MW 220 Alpha MAX 220	Falcon CLP 680 Falcon CLP 220	– Spartan EP 220	Renolin CLP 680 Plus Renolin CLP 220 Renolin CLP 220 Plus	Klubberol GEM 1-680 Klubberol GEM 1-220	Mobilgear: - 636 - XMP 680 Mobilgear 630 Mobilgear XMP 220	Onligear BM 680 Onligear BM 220	Shell Omala 680 Shell Omala 220	Tribol 1100/680 Tribol 1100 / 220
Synthetisches Öl Synthetic oil Huile synthétique	ISO VG 100 -15 ... 25°C ISO VG 15 -45 ... -15°C*	Deqol BG 100 BG 100 plus Vitaloil 1010	Engel GR-XP 100 Bartran HV 15	Alpha SP 100 Alpha MW 100 Alpha MAX 100 Hyspyn AWS 15 Hyspyn SP 15 Hyspyn ZZ 15	Falcon CLP 100 Astron HVLP 15	Spartan EP 100 Uniwis J13	Renolin CLP 100 Renolin CLP 100 Plus Renolin B 15 HVI	Klubberol GEM 1-100 Iscollex MT 30 rot	Mobilgear: - 627 - XMP 110 Mobil DTE 11 M	Onligear BM 100 Ultra 10	Shell Omala 100 Shell Tellus T 15	Tribol 1100 / 100 Tribol 943 AW 22
Biologisch abbaubares Öl Biodegradable oil Huiles biodegradables	Schneckengetriebe ISO VG 680 -5 ... 40°C ISO VG 220 -5 ... 40°C ISO VG 680 -5 ... 40°C	Deqol GS 680 Deqol GS 220	Engel SG-XP 680 Energyn SG-XP 220	Alphasyn PG 220	Polydea PGLP 220	Glycolube 220	Renolin PG 680 Renolin PG 220	Klubbersynth GH-6-680 Klubbersynth GH-6-220	Glygoyle HE 680 Glygoyle HE 220	Oniflex A 680 Oniflex A 220	Shell Tivella S 680 Shell Tivella WB Tivella S 220	Tribol 800 / 680 Tribol 800/220
Lebensmittel- verträgliches Öl <sup>1)</sup> Food-grade oil <sup>1)</sup> Huiles pour environnement alimentaire <sup>1)</sup>	ISO VG 220 -25 ... 40°C	Eural Gear 220	–	Vitalube GS 220	–	Gear Oil FM 220	Bel-Ray No-Tox Gear Oil 90 Synt-Gear Oil 220	Klubberol 4 UH1-680 Klubbersynth UH1 6-680	Mobil DTE FM 220	Opilieb GT 220	Shell Cassida Fluid GL680 Shell Cassida Fluid GL220	Tribol 1810 / 220 FoodProof oder 1800 / 220
Synth. Fließfett Synth. fluid grease Graisse fluide synthétique	-25 ... 60°C	Aralub BAB EP0	Energyn GSF	Alpha Gel 00	–	Fließfett S 420	Renocit LX-PG 00	Klubbersynth GE 46-1200 Klubbersynth UH1 14-800 <sup>1)</sup>	Glygoyle Grease 00	Qseon UF 00	Tivella Comp. A Tivella GL 00	Tribol 800 / 1000

# Chain Conveyor



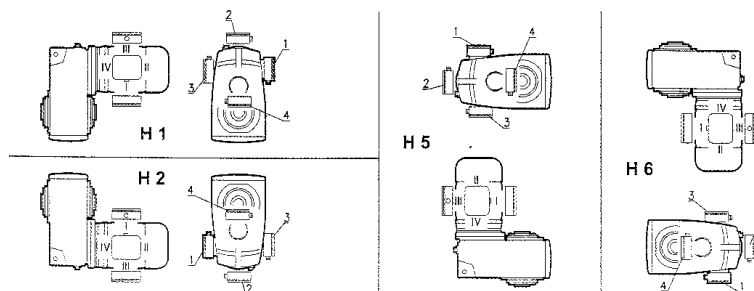
Ölfüllmengen  
Lubricant capacities  
Quantite de lubrifiant

Flachgetriebe		Parallel Shaft Gear Units				Réducteurs à arbre parallèles	
Füllmenge [ l ]		Filling quantities [ l ]				Quantite de lubrifiant [ l ]	
2 - stufig 2 - stages à deux trains	Waagerechte Anordnung Horizontal position Position horizontale				Senkrechte Anordnung Vertical position Position verticale		
	H 1	H 2	H 3	H 4	H 5	H 6	
SK 0182 NB	0,40	0,60	0,50	0,50	0,55	0,55	
SK 0282 NB	0,70	0,80	0,90	0,90	1,10	1,00	
SK 1282	0,90	0,90	0,95	0,95	1,20	1,30	
SK 2282	1,65	1,90	1,80	1,80	2,00	2,40	
SK 3282	3,15	3,25	3,15	3,15	4,10	4,10	
SK 4282	4,70	4,75	4,70	4,70	5,40	6,10	
SK 5282	7,50	7,50	7,20	7,20	8,80	8,80	
SK 6282	17,0	12,0	14,0	10,0	17,5	14,0	
SK 7282	25,0	20,0	21,0	16,0	27,0	21,0	
SK 8282	37,0	30,0	31,0	31,0	41,0	33,0	
SK 9282	74,0	55,0	59,0	69,0	72,0	70,0	
SK 10282 *	90,0	40,0	82,0	60,0	90,0	90,0	
SK 11282 *	165	145	140	100	195	160	
3 - stufig 3 - stages à trois train	Waagerechte Anordnung Horizontal position Position horizontale				Senkrechte Anordnung Vertical position Position verticale		
	H 1	H 2	H 3	H 4	H 5	H 6	
SK 1382 NB	1,30	1,40	1,90	2,00	2,10	2,30	
SK 2382	1,70	1,90	1,50	1,50	3,10	2,60	
SK 3382	4,10	3,30	3,30	3,30	5,60	4,10	
SK 4382	5,90	4,90	4,90	4,90	8,30	6,80	
SK 5382	12,5	6,70	8,30	8,30	14,0	12,0	
SK 6382	16,5	9,60	12,5	14,0	18,0	13,0	
SK 7382	22,0	16,0	19,0	23,0	25,0	20,0	
SK 8382	34,0	25,0	30,0	35,0	38,0	32,0	
SK 9382	73,0	45,0	60,0	65,0	74,0	70,0	
SK 10382 *	85,0	73,0	80,0	80,0	88,0	88,0	
SK 11382 *	160	140	135	155	210	155	
SK 12382 *	160	140	135	155	210	155	

Flachgetriebe

Parallel shaft gear units

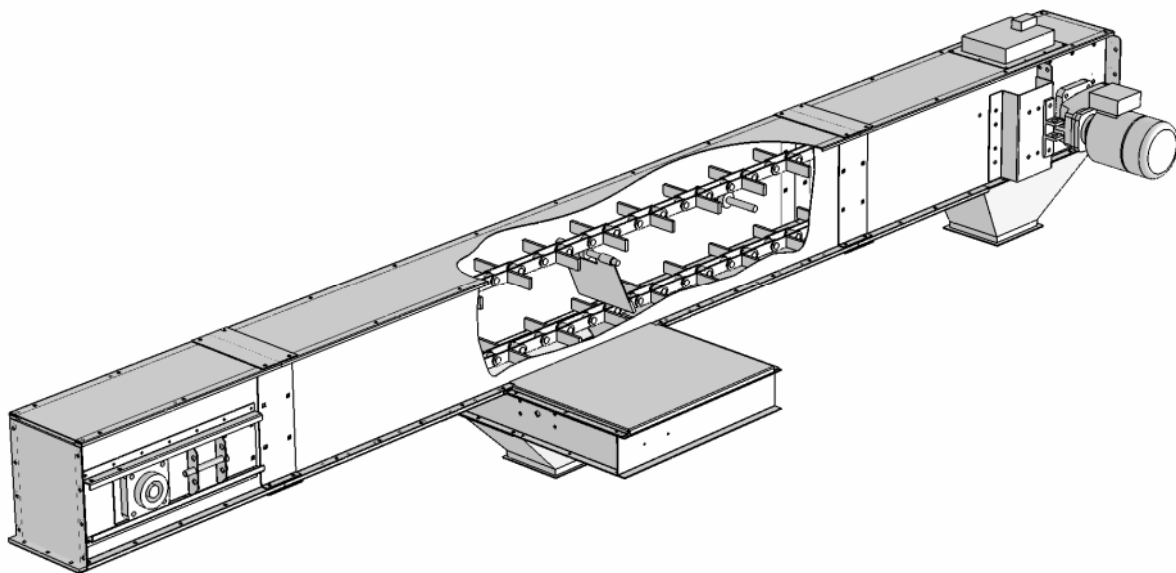
Réducteurs à arbres parallèles



# Chain Conveyor

## Assembly instructions

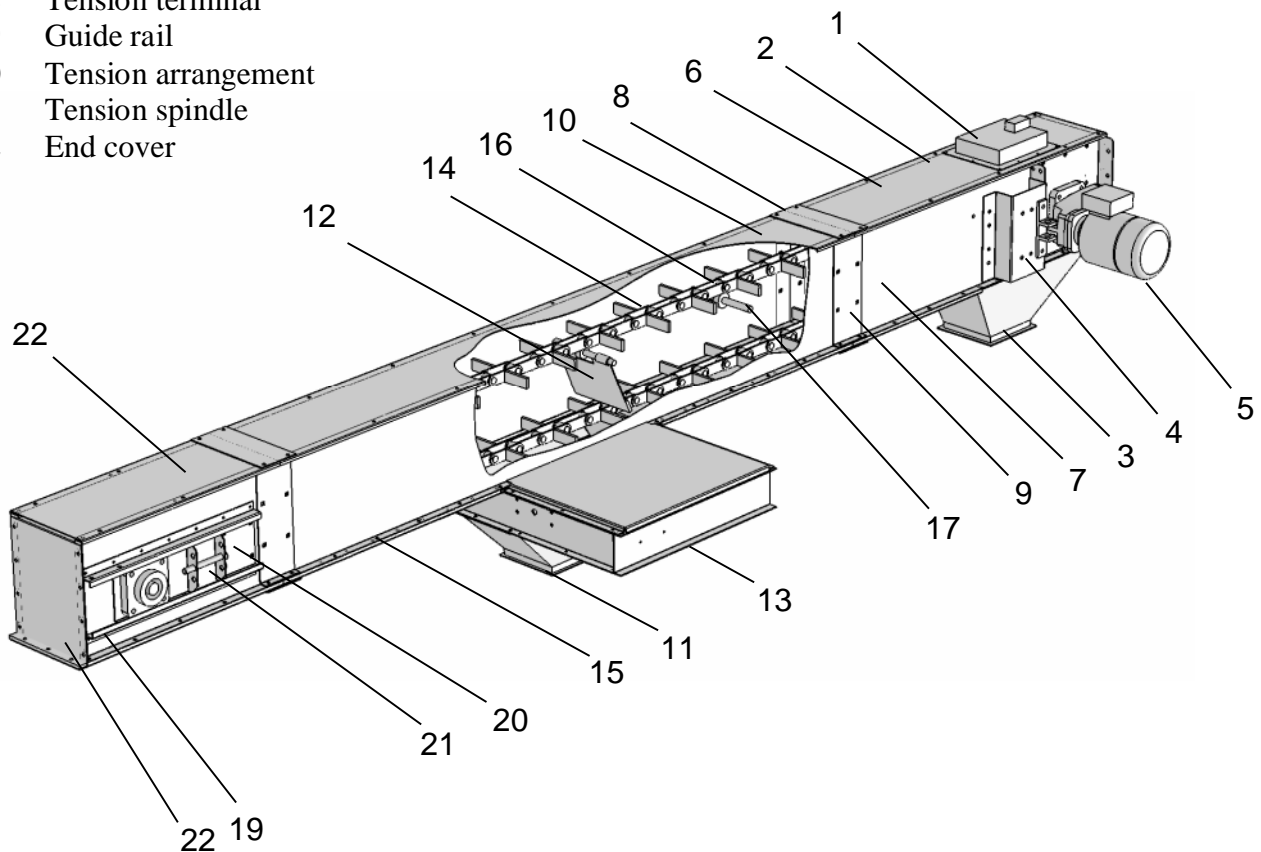
	Page
Description of chain conveyor	2
Assembling the chain conveyor	3
Mounting the chain and outlet hopper	4
In general	5



# Chain Conveyor

## Description

- 1 Safety switch
- 2 Motor section
- 3 Outlet
- 4 Motor console
- 5 Gear-motor with coupling
- 6 Top plate/cover
- 7 Side plates
- 8 Top assembly plate
- 9 Side assembly plates
- 10 Extension section
- 11 Outlet hopper
- 12 Guide arm for brush
- 13 Outlet hopper
- 14 Chain for conveying
- 15 Bottom plate
- 16 Return roller
- 17 Axel for return roller
- 18 Tension terminal
- 19 Guide rail
- 20 Tension arrangement
- 21 Tension spindle
- 22 End cover



# Chain Conveyor

## Assembling the chain conveyor

1. The chain conveyor consists of a drive terminal, a tension terminal and a number of extension sections between the two.
2. Motor- and tension terminals are delivered pre-assembled.  
The extension sections are assembled on site with 2 side walls, 1 bottom plate, 2 side wall assembly plates and 1 bottom assembly plate (fig. 1).  
Put in bolts without tightening.
3. Assemble the extension sections one after another.  
Mount the motor- and tension terminals at either end of the extension sections.  
Put in bolts without tightening.
4. The chain conveyor must be supported for every 5 meters in length. The conveyor must be correctly aligned, before tightening bolts.
5. Any cracks between the nylon bottom plates must be filled with silicone.
6. Before the top plate is fitted, a layer of silicone should be applied to the surface between the side plates. The lid and top plate are assembled with bolts.
7. Chain conveyors with a reinforced–double bottom should be assembled as shown in Fig 4.  
Position the bottom chain prior to fitting the covering plate.
8. Chain conveyor inlets should be positioned minimum 400 mm in front of the sprocket.

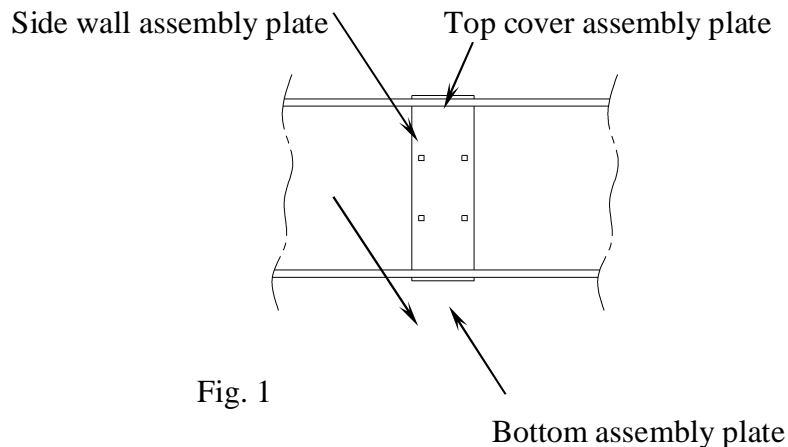


Fig. 1

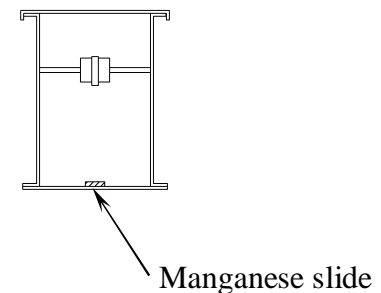


Fig. 2

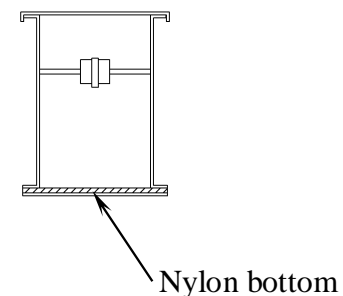


Fig. 3

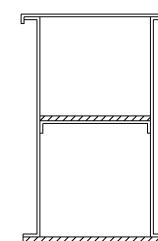


Fig. 4



# Chain Conveyor

## Mounting the chain and outlet shutter

9. If an outlet hopper is required, a hole may be cut in the bottom plate to facilitate a shutter palate being mounted. The shutter plate should be positioned such that the top edge is level with the top of the bottom plate. There must be 1-2 mm clearance around the shutter plate. (Fig. 6).
10. A return roller with a brush may be mounted over the shutter plate.
11. Place the chain in the chain conveyor.  
If there is no free end outlet then return buckets  
May be mounted on the chain carriers (Fig. 6).
12. Before positioning the top cover, dust-proofing strips may be stuck to the upper flanges.  
Joints in the assembly plates should be sealed with Secomastic or other sealant.

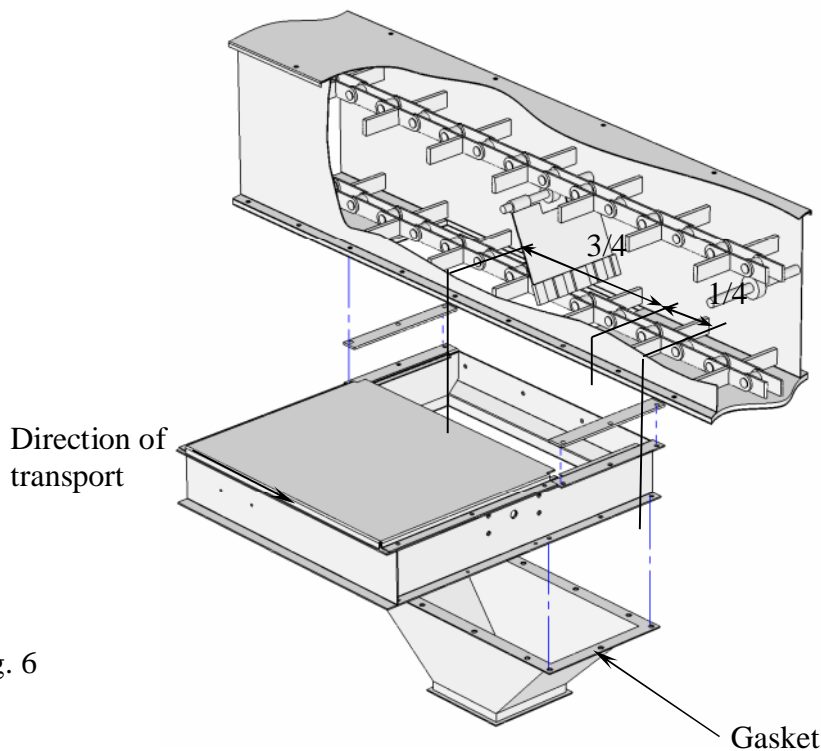
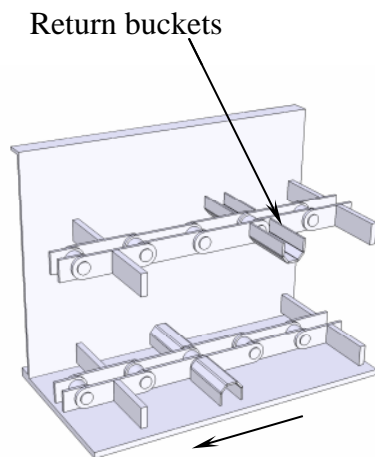


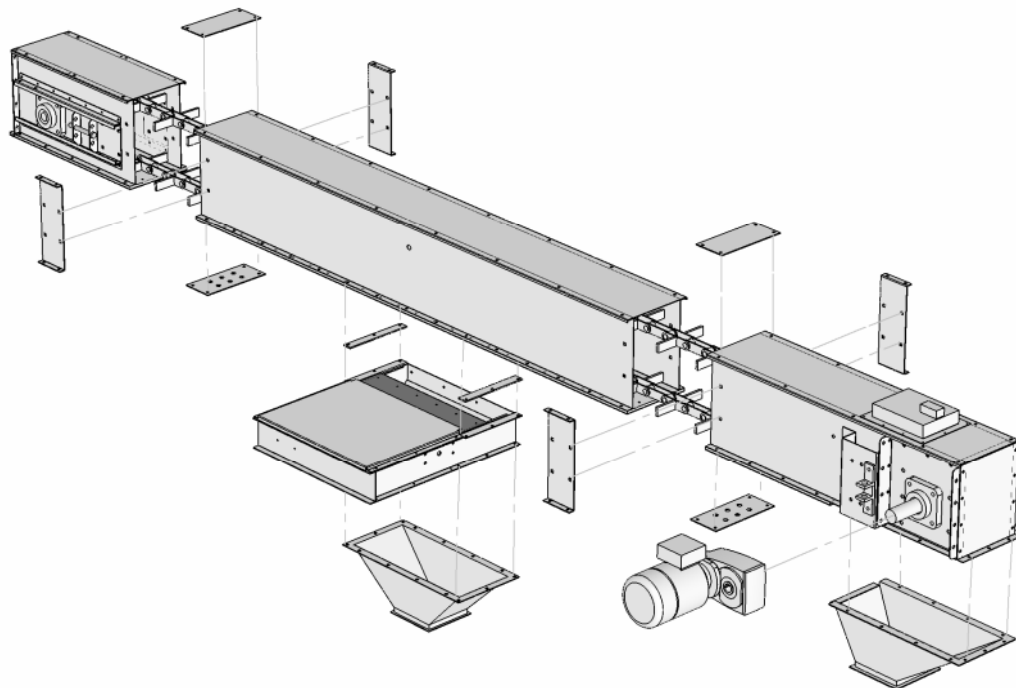
Fig. 6

# Chain Conveyor

## Chain conveyor in general

Check the following before starting the motor:

1. That there is oil in the gear motor.
2. The air bleed plug has been removed.
3. Chain conveyor is aligned in a straight line and adequately supported.
4. The clutch and gear are correctly adjusted.
5. Outlet shutters have the necessary clearance and function freely.
6. The chain is correctly tensioned.
7. The safety switch on the overflow flap lid is fitted and connected.
8. Any brushes function correctly.



# Chain Conveyor

## Part list – Spare-part list Type K40

Pos.	Number	Name	Draw. No.
		<b><u>Motor section</u></b>	
	1	End plate	51-013
	1	Safety switch, type TROJAN 5	
	1	Shaft (see machine list)	
	2	Flange bearing FWS 50-A	
	1	Motor console (see machine list)	
	1	Gear motor (see machine list)	
	1	Coupling (see machine list)	
	1	Top plate with overflow flap	51-007
	2	Side plate	51-008
	1	Bottom plate	51-014
	1	Nylon – Wear plate 10 mm. PEHD 1000	51-067
	1	Top – assembly plate	51-005
	2	Side – assembly plate	51-004
	1	Base – assembly plate	51-003
	1	Reinforcement for motor console / bearings	51-021
	1	Drive wheel, z = 8, P = 100, RL = 20, B = 20, DC = 261 mm.	
	1	Shaft for return roller	51-069
	1	Return roller – nylon	51-074
	2	Washer for return roller – $\varnothing 16 \times 2$ mm.	
	2	Locking ring for return roller – Outer dia. $\varnothing 16 \times 2$ mm.	
	2	Bolt for shaft end – M10 x 25 mm.	
	8	Bolt for top plate - M8 x 16 mm. with nut (zinc-coated)	
	16	Bolt for base plate -M8 x 25 mm. with nut (zinc-coated)	
	8	Bolt for bearing, countersunk -M12 x 30 mm. (zinc-coated)	
	8	Bolt for end plate -M8 x 16 mm. with nut (zinc-plated)	
	4	Bolt for top plate -M8 x 30 mm. with nut (zinc-plated)	
	4	Bolt for base-assembly plate -M8 x 35 mm. with nut (zinc-plated)	
	8	Bolt with square shaft for side-assembly plate -M10 x 20 mm. with nut	
	8	Washer for bolt with square shaft $\varnothing 14 \times \varnothing 28 \times 2,5$ mm.	
	1	Outlet cone for outlet – Q20	51-023

# Chain Conveyor

## Part list – Spare-part list Type K40

Pos.	Number	Name	Draw. No.
		<b><u>Tension section</u></b>	
	1	Top plate	51-007
	2	Side plate	51-010
	1	Bottom plate	51-014
	1	Nylon-wear plate, 10 mm. PEHD 1000	51-067
	4	Guide rail for tension plate	51-012
	2	Tension plate	51-011
	1	Shaft $\varnothing 30 \times 345$ mm.	51-062
	2	Flange bearing FWS – 30A	
	2	Tension spindle – M20 x 300	
	1	Endplate	51-009
	1	Inlet	
	1	Drive wheel, z=8, P=100, RL=20, B=20, DC=261mm.	
	1	Shaft for return roller	51-069
	1	Return roller – nylon	51-074
	2	Washer for return roller – $\varnothing 16 \times 2$ mm.	
	2	Locking ring for return roller – Outer dia. $\varnothing 16 \times 1$ mm.	
	2	Bolt for shaft end – M10 x 25mm.	
	10	Bolt for top plate-M8 x 16mm w/nut (zinc-coated.)	
	18	Bolt for bottom plate-M8 x 25 mm w/nut(zinc-coated.)	
	8	Bolt for endplate –M8 x 16 mm w/nut (zinc-coated.)	
	8	Bolt for bearing – countersunk -M10 x 30 mm. w/nut (zinc-coated.)	
		<b><u>Extension section</u></b>	
	1	Top plate	51-006
	2	Side plate	51-002
	1	Base plate	51-001
	1	Nylon-wear plate, 10 mm. PEHD 1000	51-075
	2	Axel for return roller	51-069
	2	Return roller – nylon	51-074
	4	Washer for return roller – $\varnothing 16 \times 2$ mm.	
	4	Locking ring for return roller – Outer dia. $\varnothing 16 \times 1$ mm.	
	4	Bolt for shaft end – M10 x 25 mm.	
	1	Top – assembly plate	51-005
	1	Side – assembly plate	51-004
	1	Base – assembly plate	51-003
	12	Bolt for top plate –M8 x 16 mm w/nut (zinc-coated.)	
	26	Bolt for bottom plate -M8 x 25 mm. w/nut (zinc-coated.)	

# Chain Conveyor

## Part list – Spare-part list Type K40

Pos.	Number	Name	Draw. No.
	4	Bolt for top-assembly plate -M8 x 30 mm. w/nut (zinc-coated.)	
	4	Bolt for bottom-assembly plate -M8 x 35 mm. w/nut (zinc-coated.)	
	8	Bolt with square shaft for side-assembly plate -M10 x 20 mm. w/nut	
	8	Washer $\varnothing$ 10 mm. Special	
	8	Washer for bolt with square shaft $\varnothing$ 13,5x $\varnothing$ 28x2,5 mm.	
	8	Bolt for assembly plate -M8 x 30 mm. w/nut	
	6	Screw –M6 x 25 mm. countersunk w/nut	
		<b><u>Chain</u></b>	
	1	Chain with scraper, B = 210 on outer measures Type FV90, 35 x 5 mm. P = 100 mm.	
		<b><u>Outlet valve – manually operated</u></b>	
	1	Valve frame	51-015
	1	Valve plate with toothed bar	51-020
	1	Shaft with toothed cog wheel	51-025
	1	Hand wheel/chain wheel	
	1	Nylon plate	51-073
		<b><u>Outlet valve – pneumatically operated</u></b>	
	1	Valve frame	51-015
	1	Valve plate	51-020
	1	Pressurised Air cylinder (see machine list)	
	1	Air pressure regulation valve (see machine list)	
	2	Indication switch (see machine list)	
	1	Cover plate under valve plate	51-076
	1	Cover plate over valve plate/cylinder	51-077
		<b><u>Outlet valve – motor operated</u></b>	
	1	Valve frame	51-015
	1	Valve plate with toothed bar	51-020
	1	Shaft with toothed cog wheel	51-025
	1	Gear motor (see machine list)	
	1	Cover plate under valve plate	51-076
	1	Cover plate over valve plate/cylinder	51-077

# Chain Conveyor

## Part list – Spare-part list Type K100

Pos.	Number	Name	Draw. No.
		<b><u>Motor section</u></b>	
	1	End plate	52-013
	1	Safety switch, type TROJAN 5	
	1	Shaft (see machine list)	
	2	Flange bearing FWS 70-A	
	1	Motor console (see machine list)	
	1	Gear motor (see machine list)	
	1	Coupling (see machine list)	
	1	Top plate with overflow flap lid	52-007
	2	Side plate	52-008
	1	Base plate	52-014
	1	Nylon – Wear plate 10 mm. PEHD 1000	52-039
	1	Top – assembly plate	52-005
	2	Side – assembly plate	52-004
	1	Base – assembly plate	52-003
	1	Reinforcement for motor console / bearings	52-021
	1	Chain wheel, z = 8, P = 125, RL = 22, B = 20, DC = 326,6 mm.	
	1	Axel for return roller	52-069
	1	Return roller – nylon	52-074
	2	Washer for return roller – $\varnothing 16 \times 2$ mm.	
	2	Locking ring for return roller – Outer dia. $\varnothing 16 \times 1$ mm.	
	2	Bolt for shaft end – M10 x 25 mm.	
	8	Bolt for top plate - M10 x 16 mm. with nut (zinc-coated)	
	16	Bolt for base plate -M10 x 25 mm. with nut (zinc-coated)	
	8	Bolt for bearing, countersunk -M14 x 30 mm. (zinc-coated)	
	8	Bolt for end plate -M10 x 16 mm. with nut (zinc-coated)	
	4	Bolt for top plate -M10 x 30 mm. with nut (zinc-coated)	
	4	Bolt for base-assembly plate -M10 x 35 mm. with nut (zinc-coated)	
	8	Bolt with square shaft for side-assembly plate -M10 x 20 mm. with nut	
	8	Washer for bolt with square shaft $\varnothing 16 \times \varnothing 28 \times 2,5$ mm.	
	1	Outlet cone for outlet – Q20	52-023

# Chain Conveyor

## Part list – Spare-part list Type K100

Pos.	Number	Name	Draw. No.
		<b><u>Tension section</u></b>	
	1	Top plate	52-007
	2	Side plate	52-010
	1	Bottom plate	52-014
	1	Nylon-wear plate, 10 mm. PEHD 1000	52-039
	4	Guide rail for tension plate	52-012
	2	Tension plate	52-011
	1	Shaft $\varnothing 50 \times 478$ mm.	52-020
	2	Flange bearing FWS – 50A	
	2	Tension spindle – M20 x 300	
	1	End plate	52-009
	1	Inlet	
	1	Chain wheel, z=8, P=125, RL=22, B=20, DC=326,6	
	1	Axel for return roller	52-069
	1	Return roller– nylon	52-074
	2	Washer for return roller – $\varnothing 16 \times 2$ mm.	
	2	Locking ring for return roller – Outer dia. $\varnothing 16 \times 1$ mm.	
	2	Bolt for shaft end – M10 x 25mm.	
	10	Bolt for top plate-M10 x 16mm w/nut (zinc-coated.)	
	18	Bolt for base plate-M10 x 25mm w/nut(zinc-coated)	
	8	Bolt for endplate –M10 x 16 mm w/nut (zinc-coated)	
	8	Bolt for bearing – countersunk -M12 x 30 mm. w/nut (zinc-coated.)	
		<b><u>Extension section</u></b>	
	1	Top plate	52-006
	2	Side plate	52-002
	1	Base plate	52-001
	1	Nylon-wear plate, 10 mm. PEHD 1000	52-040
	2	Shaft for return roller	52-069
	2	Return roller – nylon	52-074
	4	Washer for return roller – $\varnothing 16 \times 2$ mm.	
	4	Locking ring for return roller – Outer dia. $\varnothing 16 \times 1$ mm.	
	4	Bolt for shaft end – M10 x 25 mm.	
	1	Top – assembly plate	52-005
	1	Side – assembly plate	52-004
	1	Base – assembly plate	52-003
	12	Bolt for top plate –M10 x 16 mm w/nut (zinc-coated.)	
	26	Bolt for base plate -M10 x 25 mm. w/nut (zinc-coated.)	

# Chain Conveyor

## Part list – Spare-part list Type K100

Pos.	Number	Name	Draw. No.
	4	Bolt for top-assembly plate -M10 x 30 mm. w/nut (zinc-coated.)	
	4	Bolt for base-assembly plate -M10 x 35 mm. w/nut (zinc-coated.)	
	8	Bolt with square shaft for side-assembly plate -M10 x 20 mm. w/nut	
	8	Washer $\phi$ 12 mm. Special	
	8	Washer for bolt with square shaft $\phi$ 14x $\phi$ 28x2,5 mm.	
	8	Bolt for assembly plate -M10 x 30 mm. w/nut	
	6	Screw –M6 x 25 mm. countersunk w/nut	
	1	Guide rail for chain – Steel 12 x 4 mm.	
		<b><u>Chain</u></b>	
	1	Chain with scraper, B = 310 on outer measures Type DIN 8165 – FV112, 40 x 6 mm., P = 125 mm.	
		<b><u>Outlet valve – manually operated</u></b>	
	1	Valve frame	52-015
	1	Valve plate with toothed bar	52-020
	1	Shaft with toothed cog wheel	52-025
	1	Hand wheel/chain wheel	
		<b><u>Outlet valve – pneumatically operated</u></b>	
	1	Valve frame	52-015
	1	Valve plate	52-020
	1	Pressurised Air cylinder (see machine list)	
	1	Air pressure regulation valve (see machine list)	
	2	Indication switch (see machine list)	
	1	Cover plate under valve plate	52-076
	1	Cover plate over valve plate/cylinder	52-077
		<b><u>Outlet valve – motor operated</u></b>	
	1	Valve frame	52-015
	1	Valve plate with toothed bar	52-020
	1	Shaft with toothed cog wheel	52-025
	1	Gear motor (see machine list)	
	1	Cover plate under valve plate	52-076
	1	Cover plate over valve plate	52-077



# Chain Conveyor

## Part list – Spare part list Type K100

Pos.	Number	Name	Draw. No.
		<b><u>Outlet valve – motor operated</u></b>	
	1	Valve frame	52-015
	1	Valve plate with toothed bar	52-020
	1	Shaft with toothed cog wheel	52-025
	1	Gear motor (see machine list)	
	1	Cover plate under valve plate	52-076
	1	Cover plate over valve plate	52-077

# Chain Conveyor

## Part list – Spare-part list Type K100 – Special

Pos.	Number	Name	Draw. No.
		<b><u>Motor section</u></b>	
M 1	1	End plate with overflow flap	53-013
M 2	1	Safety switch, type TROJAN 5	
M 3	1	Shaft (see machine list)	
M 4	2	Flange bearing FWS 70A	
M 5	1	Motor console (see machine list)	
M 6	1	Gear motor (see machine list)	
M 7	1	Coupling (see machine list)	
M 8	1	Top plate	53-007
M 9	2	Side plate	53-008
M 10	1	Base plate	53-014
M 11	1	Nylon – Wear plate 10 mm. PEHD 1000	53-039
M 12	1	Top – assembly plate	53-005
M 13	2	Side – assembly plate	53-004
M 14	1	Base – assembly plate	53-003
M 15	1	Reinforcement for motor console/bearings	53-021
M 16	1	Drive wheel, $z = 8$ , $P = 125$ , $RL = 22$ $B = 20$ , $DC = 326,6$ mm.	
M 17	1	Shaft for return roller	53-039
M 18	1	Return roller – steel	53-040
	2	Bearing for return roller – FWS 25A	
	8	Screw set for bearings -M10 x 30 mm. countersunk (zinc-coated)	
	8	Screw set for top plate -M10 x 16 mm. with washer (zinc-coated)	
	16	Screw set for base plate -M10 x 25 mm. with washer (zinc-coated)	
	8	Screw set for bearings, countersunk -M14 x 30 mm (zinc-coated)	
	8	Screw set for end plate -M10 x 16 mm. with washer (zinc-coated)	
	4	Screw set for top – assembly plate -M10 x 30 mm. with washer (zinc-coated)	
	4	Screw set for base – assembly plate -M10 x 35 mm. with washer (zinc-coated)	
	8	Bolt with square shaft for side – assembly plate -M10 x 20 mm. with washer	
	8	Washer for bolt with square shaft - $\phi 14$ x $\phi 28$ x 2,5 mm.	
	1	Outlet cone for outlet - Q20	53-023

# Chain Conveyor

## Part list – Spare-part list Type K100 – Special

Pos.	Number	Name	Draw. No.
		<b><u>Tension section</u></b>	
S 1	1	Top plate	53-007
S 2	2	Side plate	53-010
S 3	1	Base plate	53-014
S 4	1	Nylon – wear plate 10 mm. PEHD 1000	53-039
S 5	4	Guide rail	53-012
S 6	2	Tension plate	53-011
S 7	1	Shaft $\varnothing 50 \times 478$ mm.	53-020
S 8	2	Flange bearing FWS 50A	
S 9	2	Tension spindel –M20 x 300	
S10	1	End plate	53-009
S11	1	Inlet	
S 12	1	Drive wheel, $z = 8$ , $P = 125$ , $RL = 22$ $B = 20$ , $DC = 326,6$ mm.	
S 13	1	Shaft for return roller (steel)	53-039
S 14	1	Return roller – steel	53-040
	2	Bearings for return roller – FWS 25A	
	8	Screw set for bearings -M10 x 30 mm. countersunk (zinc-coated)	
	10	Screw set for top plate -M10 x 16 mm. with washer (zinc-coated)	
	18	Screw set for base plate -M10 x 25 mm. with washer (zinc-coated)	
	8	Screw set end plate -M10 x 16 mm. with washer (zinc-coated)	
	8	Screw set for bearings -M12 x 30 mm. with washer (zinc-coated)	
		<b><u>Extension section</u></b>	
F 1	1	Top plate	53-006
F 2	2	Side plate	53-002
F 3	1	Base plate	53-001
F 4	1	Nylon – wear plate 10 mm. PEHD 1000 -M10 x 20 mm. with washer	53-040
F 5	2	Shaft for return roller	53-069
F 6	2	Return roller – nylon	53-074
	4	Washer with return roller $\varnothing 16 \times 2$ mm.	
	4	Locking ring for return roller Outer dia. $\varnothing 16 \times 1$ mm.	
	4	Bolt for shaft end – M10 x 25 mm.	
F 7	1	Top – assembly plate	53-005

# Chain Conveyor

## Part list – Spare-part list Type K100 – Special

Pos.	Number	Name	Draw. No.
F 8	1	Side – assembly plate	53-004
F 9	1	Base – assembly plate	53-003
F 10	1	Guide rail for chain – Flat plate 12 x 4 mm.	
	12	Screw set for top plate -M10 x 16 mm. with washer (zinc-coated)	
	26	Screw set for base plate -M10 x 25 mm. With washer (zinc-coated)	
	4	Screw set for top – assembly plate -M10 x 30 mm. with washer (zinc-coated)	
	4	Screw set for base – assembly plate -M10 x 35 mm. with washer (zinc-coated)	
	8	Bolt with square shaft for side – assembly plate -M10 x 20 mm. with washer	
	8	Washer for square shafted bolt $\varnothing 14 \times \varnothing 28 \times 2,5$ mm.	
	8	Steel screw set assembly plate -M10 x 30 mm. with washer	
	6	Machine screws -M6 x 25 mm. Countersunk with washer	
		<b><u>Transport chain</u></b>	
	1	Chain DIN 8165 – FV112 – 40 x 6 mm. P = 125 Scrapper B = 310 mounted on all outer links	
		<b><u>Extra accessories</u></b> (see machine list)	
		<b><u>Outlet valve – manually operated</u></b>	
	1	Valve frame	53-015
	1	Valve plate with toothed bar	53-020
	1	Shaft with toothed cog wheel	53-025
	1	Hand wheel/chain wheel	

# Chain Conveyor

## Part list – Spare-part list Type K100 – Special

Pos.	number	Name	Draw. No.
		<b><u>Outlet valve – pneumatically operated</u></b>	
	1	Valve frame	53-015
	1	Valve plate	53-020
	1	Pressurised air cylinder	(see machine list)
	1	Air pressure regulation valve	(see machine list)
	2	Indication switch	(see machine list)
	1	Cover plate under valve plate	53-076
	1	Cover plate over valve plate	53-077
		<b><u>Outlet valve – motor operated</u></b>	
	1	Valve frame	53-015
	1	Valve plate with toothed bar	53-020
	1	Shaft with toothed cog wheel	53-025
	1	Gear motor	(see machine list)
	1	Cover plate under valve plate	53-076
	1	Cover plate over valve plate	53-077

# Chain Conveyor

## Part list – Spare-part list Type K200

Pos.	Number	Name	Draw. No.
		<b><u>Motor section</u></b>	
M 1	1	End plate with overflow flap	55-013
M 2	1	Safety switch, type TROJAN 5	
M 3	1	Shaft (see machine list)	
M 4	2	Flange bearing FWS 90	
M 5	1	Motor console (see machinelist)	
M 6	1	Gear motor (see machine list)	
M 7	1	Coupling (see machine list)	
M 8	1	Top plate	55-007
M 9	2	Side plate	55-008
M 10	1	Base plate	55-014
M 11	1	Nylon – wear plate 10 mm. PEHD 1000	55-039
M 12	1	Top – assembly plate	55-005
M 13	2	Side – assembly plate	55-004
M 14	1	Base – assembly plate	55-003
M 15	1	Reinforcement for motor console/bearings	55-021
M 16	1	Drive wheel, $z = 9$ , $P = 160$ , $RL = 30$ $B = 30$ , $B = 40$ , $DC = 467,8$ mm.	
M 17	1	Shaft for return roller	55-039
M 18	1	Return roller – steel	55-040
	2	Bearings for return roller – FWS 40A	
	8	Screw set for bearings -M10 x 30 mm. countersunk (heat galvanised)	
	8	Screw set for top plate -M10 x 16 mm. with washer (heat galvanised)	
	16	Screw set for base plate -M10 x 25 mm. with washer (heat galvanised)	
	8	Screw set for bearings, countersunk -M14 x 30 mm (heat galvanised)	
	8	Screw set for end plate -M10 x 16 mm. with washer (heat galvanised)	
	4	Screw set for top – assembly plate -M10 x 30 mm. with washer (heat galvanised)	
	4	Screw set for base – assembly plate -M10 x 35 mm. with washer (heat galvanised)	
	8	Bolt with square shaft for side – assembly plate -M10 x 20 mm. with washer	
	8	Washer for square shafted bolt - $\phi 14$ x $\phi 28$ x 2,5 mm.	
	1	Outlet cone for outlet – Q30	55-023

# Chain Conveyor

## Part list – Spare-part list Type K200

Pos.	Number	Name	Draw. No.
		<b><u>Tension section</u></b>	
S 1	1	Top plate	55-007
S 2	2	Side plate	55-010
S 3	1	base plate	55-014
S 4	1	Nylon – wear plate 10 mm. PEHD 1000	55-039
S 5	4	Guide rail for tension plate	55-012
S 6	2	Tension plate	55-011
S 7	1	Shaft $\varnothing 70 \times 610$ mm.	55-020
S 8	2	Flange bearings FWS 70A	
S 9	2	Tension spindles –M24 x 300	
S10	1	End plate	55-009
S 12	1	Chain wheel, $\varnothing = 437$ mm external measurement $\varnothing = 70$ mm internal measurement	
S 13	1	Shaft for return roller (steel)	55-039
S 14	1	Return roller – steel	55-040
	2	Bearings for return roller – FWS 40A	
	8	Screw set for bearings -M10 x 30 mm. countersunk (heat galvanised)	
	10	Screw set for top plate -M10 x 16 mm. with washer (heat galvanised)	
	18	Screw set for base plate -M10 x 25 mm. with washer (heat galvanised)	
	8	Screw set for end plate -M10 x 16 mm. with washer (heat galvanised)	
	8	Screw set for bearings -M12 x 30 mm. with washer (heat galvanised)	
		<b><u>Extension section</u></b>	
F 1	1	Top plate	55-006
F 2	2	Side plate	55-002
F 3	1	Base plate	55-001
F 4	1	Nylon – wear plate 10 mm. PEHD 1000 -M10 x 20 mm. With washer	55-040
F 5	2	shaft for return roller	55-069
F 6	2	Return roller – nylon	55-074
	4	Washer for return roller $\varnothing 16 \times 2$ mm.	
	4	Locking ring for return roller -external $\varnothing 16 \times 1$ mm.	
	4	Screw set for shaft end – M10 x 25 mm.	
F 7	1	Top – assembly plate	55-005

# Chain Conveyor

## Part list – Spare-list list Type K200

Pos.	Number	Name	Draw. No.
F 8	1	Side – assembly plate	55-004
F 9	1	Base – assembly plate	55-003
F 10	1	Guide rail for chain – flat plate 35 x 6 mm.	
	12	Screw set for top plate -M10 x 16 mm. with washer (heat galvanised)	
	26	Screw set for base plate -M10 x 25 mm. with washer (heat galvanised)	
	4	Screw set for top – assembly plate -M10 x 30 mm. with washer (heat galvanised)	
	4	Screw set for base – assembly plate -M10 x 35 mm. with washer (heat galvanised)	
	8	Bolt with square shaft for side – assembly plate -M10 x 20 mm. with washer	
	8	Washer for square shafted bolt $\varnothing 14 \times \varnothing 28 \times 2,5$ mm.	
	8	Steel screw set – assembly plate -M10 x 30 mm. with washer	
	6	Machine screw -M6 x 25 mm. countersunk with washer	
		<b><u>Transport chain</u></b>	
	1	Chain DIN 8165 – FV180 – 50 x 8 mm. P = 160 Scrapper B = 410 mounted on all outer links	
		<b><u>Extra Accessories</u></b> (see machine list)	
		<b><u>Outlet valve – manually operated</u></b>	
	1	Valve frame	55-015
	1	Valve plate with toothed bar	55-020
	1	Shaft with toothed cog wheel	55-025
	1	Hand wheel/chain wheel	



# Chain Conveyor

## Part list – Spare-part list Type K200

Pos.	Number	Name	Draw. No.
		<b><u>Outlet valve – pneumatically operated</u></b>	
	1	Valve frame	55-015
	1	Valve plate	55-020
	1	Pressurised air cylinder	(see machine list)
	1	Regulation valve	(see machine list)
	2	Indication switch	(see machine list)
	1	Cover plate under valve plate	55-076
	1	Cover plate over valve plate	55-077
		<b><u>Outlet valve – motor operated</u></b>	
	1	Valve frame	55-015
	1	Valve plate with toothed bar	55-020
	1	Shaft with toothed cog wheel	55-025
	1	Gear motor	(see machine list)
	1	Cover plate under valve plate	55-076
	1	Cover plate over valve plate	55-077