



**USERS MANUAL FOR
HORIZONTAL TO INCLINE CONVEYOR
SERIES LT - LTC – LTCM**

CUSTOMER: _____

SERIAL #: _____

**DATE OF
MFG:** _____

CONVEYOR MODEL: _____





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0. INTRODUCTION

This user manual will explain the specifications concerning the LT series conveyor system. The user manual covers explanations from installation to operation of the LT series conveyor.

A. DIMENSIONS

The LT style Horizontal to Incline Conveyor is available in standard dimensions (Please refer to brochure) and custom sizes upon request.

B. SPECIFICATIONS

1.0 Frame

The conveyor frame consists of anodized extruded aluminum profile 115mm (4.5 inches) in height by 25mm (1 inch thick). The conveyor body and part retainers are made from 2.5mm thick aluminum. Furthermore steel parts and aluminum die cast parts are used in areas that require high strength. All sheet metals used are from 16 gauge stainless steel (1.5 mm thick). High quality ball bearings and hardened sprockets guarantee a long lasting maintenance free operation.

2.0 Belt

The standard belt consists of a smooth and cleated polyurethane (PUR) two ply fabric with double finger joints to insure maximum flexibility and belt life. The belt guidance is assured by a central profile, "V" guide, located on the drive side of the belt. The cleats are ultrasonically welded to the PUR two ply fabric in order to insure maximum lifetime of the cleats. The spring tension of the automatic belt-tensioning device, at the end of the incline section, is preset to a medium tension. This device will adjust the belt tension automatically when the angle changes.

Note:

- *Special types of belts available upon request. It is not necessary to change the tension of the automatic belt-tensioning device.*
- *Keep enough clearance between the cleats of the belt and any container standing in front of the Conveyor. This will extend the lifetime of the belt.*

WARNING:

Over tightening of the belt may void warranty.



3.0 Legs

The legs are made from zinc plated perforated steel tubing to guarantee optimum resistance to corrosion and an easy height adjustment. They slide into steel telescopes, mounted to the conveyor frame, to allow a height adjustment. Each leg is equipped with a \varnothing 2.3" (60mm) caster to guarantee easy mobility.

4.0 Drive

4.1. Motor

The standard gearmotor is a Dayton, 110 VAC 60 Hz, single phase TEFC gearmotor.

Optional motors:

- 90 VDC, permanent magnet TENV gearmotor.
- 260/440 VAC, 3-phase gearmotor.

Note:

Special motor HP, size and Torque available upon request.

4.2. Control

The standard control is a single pole manual motor starter switch. This standard unit is overload protected and mounted inside a NEMA 1 enclosure.

Optional controls:

- Variable speed control, to be used with a 90 VDC permanent magnet gearmotor.
- Three pole manual motor starter switch with overload protection, to be used with 3-phase gearmotor.
- 220 VAC 60 Hz variable speed inverter HITACHI - SINGLE PHASE INPUT - (to be used with 3-phase gearmotor)
- 440 VAC 60 Hz variable speed inverter HITACHI - THREE PHASE INPUT - (to be used with 3-phase gearmotor)

Note:

Special control systems available upon request.

4.3. Power transmission



A roller chain transmits power to the drive roller. The chain is guided by a number of tensioning sprockets. The drive and idle rollers are mounted on ball bearings, which are lubricated. The drive roller transmits the power to the belt.

C. INSTALLATION

Every conveyor is shipped pre-tested at the factory. All conveyors are shipped with a 15 feet cord terminating with a standard 3-prong plug ready to be plugged in any 110 VAC receptacle with ground. The direction of rotation is factory preset.

Note:

Conveyors with 3-phase gear motors might have the wrong direction of rotation preset at the factory, depending on the polarity of your 3-phase outlet. In order to set the direction follow these instructions:

**WARNING:
ALWAYS UNPLUG THE CONVEYOR FROM
ITS POWER SOURCE BEFORE ANY
MAINTENANCE IS DONE**

1. Connect the conveyor to a 3-phase power source according to the motor wiring.
2. Lift up the PVC flap inside the hopper before you test the belt direction, to protect the belt and the flap!
3. Turn on the manual motor starter switch.
 - a. If the belt runs from the horizontal or “infeed” end towards the incline or “discharge” end, the direction of the belt is correct. The flap may be released and the conveyor is ready to run.
 - b. If the belt runs from the incline or “discharge” end towards the horizontal or “infeed” end, the direction of the belt is incorrect.
 - Disconnect the conveyor from the power source!
 - Open the enclosure of the motor starter switch.
 - Swap two wires on the line side of the manual motor starter switch. (either L1 with L2, L1 with L3 or L2 with L3)
 - Close the enclosure of the motor starter switch.
 - Connect the conveyor to the power source.
 - Turn the manual motor starter switch ON.



**WARNING:
THE CONVEYOR MUST BE CONNECTED TO GROUND, FOR
THE SAFETY OF OPERATING PERSONNEL!**

D. OPERATION

1. Angle adjustment -- Incline section of conveyor

The angle adjustment for the incline section ranges from 25° - 45° (models LT and LTC) and from 35° - 55° (model LTCM)

Note: One hand should lift the incline section at the center of the idle roller to avoid bending; the other hand lifts the incline handles.

Always make sure that the incline handles have the same notch setting in the incline bracket on both sides!

1. 1. Increase angle adjustment and discharge height.

- 1. STOP the conveyor.**
- 2. Lift up the incline section with one hand in the center of the idle roller**
- 3. Grasp the incline adjusting handles with your other hand**
- 4. Lift the handles until the incline bracket engages the proper notch setting.**

1. 2. Decrease angle adjustment and discharge height.

- 1. STOP the conveyor.**
- 2. Push the incline conveyor section up with one hand in the center of the idle roller in order to disengage the incline handles from the incline adjustment rack.**
- 3. Lower the incline conveyor section in order for the incline bracket to engage the proper notch setting.**

2. Height adjustment of the conveyor legs

**WARNING:
Any height adjustment of the of the conveyor
should be made carefully.
Avoid injuries by choosing a proper
lifting device.**



2.1. Conveyor height adjustment/down

1. STOP the conveyor.
2. Tighten the screw knob. (Pos #91)
3. Remove the height adjusting pins.
4. Insert the pins in the proper hole setting and insert the safety pin.
5. Release the set knob in order to slide the telescopes down to the desired position.
6. Tighten the screw knob. (Pos #91)

2.2. Conveyor height adjustment/up

1. STOP the conveyor.
2. Remove the height adjusting pins.
3. Release the set knob in order to slide the telescopes up to the desired position.
4. Insert the pins in the proper hole setting and insert the safety pin.
Tighten the screw knob.

Note:

The screw knob is not supposed to fit into the holes of the tubing.

3. To operate the LT type conveyor, perform the following:

- 3.1 Plug the power cord into a power source according to the motor voltage.
- 3.2. Adjust the incline section at the desired angle and make sure that the incline handle sits in the same notch on both sides.
- 3.3. Turn the manual motor starter switch to the "ON" position.

Note:

If the conveyor is equipped with optional s-style roller separators or a discharge chute allow enough clearance between the belt and the devices to clear the cleats as they turn around the idle roller.



WARNING:

**THIS CONVEYOR IS DESIGNED TO OPERATE IN A REASONABLY CLEAN, DUST-FREE AND MOISTURE-FREE INDUSTRIAL ENVIRONMENT! OPERATING THE CONVEYOR IN A WET ENVIRONMENT OR IN THE PRESENCE OF OIL, METAL SHAVINGS, ETC., IS DANGEROUS FOR THE OPERATOR! IT ALSO MAY CAUSE DAMAGE TO THE CONVEYOR AND VOID THE WARRANTY!
DO NOT STAND ON THE CONVEYOR!**

E. PREVENTIVE MAINTENANCE

The LT type conveyor is essentially maintenance free. However, a few easy preventive maintenance steps will increase the lifetime of the conveyor.

- 1. CONTROL THE TENSION OF THE DRIVE CHAIN REGULARLY.** The tension is preset at a medium strength. If necessary to adjust the tension, turn off the conveyor and unplug from the power source. Loosen the four nuts (Pos.56) on the motor plate. Use a bar clamp to pull the motor against the transverse brace of the base frame until the right tension of the chain is achieved. *Make sure that the motor sprocket runs parallel with the chain and the chain tensioning sprockets (Nylon).* Re-tighten the four nuts (Pos. 56).
- 2. Keep the conveyor clean!** Especially moving parts, like belt, rollers and chain can create an additional load on the motor if they are not clean. Make sure that no plastic parts are caught underneath the side rails or in the areas of the belt guide wheels (Pos. 28) Do not use sharp cleaners or alcohol to clean the conveyor. Use a common household cleaner with warm water to clean the belt.
- 3. Attached with the conveyor spare parts list is a list of recommended spare parts.** Keeping these items in stock will reduce the down time of your conveyor, If it needs to be repaired.

BELT CHANGE:

The following instructions describe the procedure for replacement of the belt on the LT style conveyors. The mentioned part numbers refer to the attached spare parts drawing of the conveyor.

WARNING!



**THE TENSIONING ARMS (POS 14/14A) ARE UNDER TENSION.
USE CAUTION WHEN RELEASING THE ARMS
ALWAYS SECURE TENSIONING ARMS WITH A
PROPER TOOL AND THE SAFETY PIN (# 19)**

1. Take off the aluminum roller guard (LH), part # 1.
2. Now the tension of the belt has to be released: To achieve this, adjust the Incline section of the conveyor to the highest position. This will tighten the tensioning spring # 16.
3. Now secure the tensioning arms on both sides with guide vise grips.
4. To release the tension on the belt, now lower the Incline section into the lowest position.
5. Remove the Incline handle # 36.
6. Remove the hopper and the side rails.
7. Lay the conveyor on the side (drive side down).
8. To remove the belt the base frame (non-drive side) has to be removed. To achieve this, proceed as follows:
9. a) Remove bolts # 18 from motor mounting plate (only the non-drive side)
b) Remove bolts from the double angle bracket # 74 (only the bolts towards the base frame. *(This will ensure that the frame is squared when re assembled)*
c) Remove the base frame. (Non-drive side)
10. Slide belt off of incline section and base frame.
11. Slide new belt on; be sure to slide belt underneath side rails! **ATTENTION:** Be sure that the belt is put on in conveying direction. The cleats have hook shape and have to face up against the Incline section.
12. For re assembly use the opposite procedure from above.

F. ACCESSORIES

1. Discharge chute. 16-gauge stainless steel chute made to customer specification, with standard hardware for mounting on the discharge end of the conveyor.
2. Part separator. The separators are mounted on the discharge end of the conveyor and are used to separate parts from runner systems. The separators are available in the following models:
 - S1, separator with one roller.
 - S1-"finger", separator with "finger" type roller
 - S1/2, separator with two rollers.
 - S1/S, separator with one spiral roller.
 - S1/2- star, separator with geared PVC sprockets
3. Aluminum part retainer mounted on the horizontal section of the conveyor to guide entering parts to the center of the belt. The part retainer is available in the following models:



- 3 sided tapered.
- 2 sided straight. (1) side low (1) side high

4. Casters. Standard casters are \varnothing 2½” non-locking & locking.
 Optional available: \varnothing 3” non- locking & locking casters.

Pos.	Description	Order #	Recommended Spare Parts
01	Tensioning roller guard, LH	LT 01	
02	Nylon inlet roller guard	LT 02	
03	Spacer, 21mm	LT 03	
04	Roller bearing 6202 ZZ	LT 04	4
05	Endless Polyurethane belt (STD)	LT 05	1
06	Idle roller - extruded aluminum \varnothing 60mm	LT 06	
07	Spacer, 18.5 mm	LT 07	
08	Tensioning roller guard, RH	LT 08	
09	Steel shaft for idle roller, \varnothing 15 mm	LT 09	
10	Washer, \varnothing 6 mm	LT 10	
11	Hex head screw, TE M6 x 20	LT 11	
12	Stainless steel sheet metal belt pan -- Incline section	LT 12	
13	Anodized, extruded aluminum profile Incline section	LT 13	
14	Tensioning arm, RH	LT 14	
14A	Tensioning arm, LH	LT 14A	
15	Washer, \varnothing 15-28 mm	LT 15	
16	Tensioning spring	LT 16	
17	Tensioning arm guide	LT 17	
18	Screw, TS M8 x 20	LT 18	
19	Safety pin tensioning arm	LT 19	
20	Square nut, M8	LT 20	
21	Transverse aluminum support -- Incline section	LT 21	
22	Angle support bracket for incline part, LH	LT 22	
23	Angle bracket--transverse support	LT 23	
24	Lock washer, \varnothing 8 mm	LT 24	
25	Hex head screw, TE M8 x 20	LT 25	
26	Screw, Ts M4 x 10	LT 26	
27	Plastic Clevis, RH	LT 27	
27A	Plastic Clevis, LH	LT 27A	
28	Belt guide wheel, \varnothing 77 mm - Nylon	LT 28	
29	Seeger, \varnothing 15 mm OD	LT 29	
30	Angle support bracket for incline part, RH	LT 30	
31	Belt guide wheel axle	LT 31	
32	Screw, TCE M8 x 20	LT 32	
33	Incline mounting bracket, LH & RH	LT 33	



34	Rack for incline adjustment handle, LH	LT 34	
35	Bracket for incline adjustment handle	LT 35	

Pos.	Description	Order #	Recommended Spare Parts
36	Incline adjustment handle	LT 36	
37	Plastic ball - incline adjustment handle	LT 37	
38	Axle for incline adjustment bracket	LT 38	
39	Screw, TCE M5 x 16	LT 39	
40	Rack for incline adjustment, RH	LT 40	
41	Washer, Ø8 mm	LT 41	
42	Hex head screw, TE M8 x 16	LT 42	
43	Hex head screw, TE M8 x 20	LT 43	
44	Bracket for drive roller shaft, RH	LT 44	
45	Intermediate roller Ø 60mm - extruded aluminum	LT 45	
46	Locking collar	LT 46	
47	Set screw, M6 x 10	LT 47	
48	Bracket for drive roller shaft, LH	LT 48	
49	Variable speed control -- (refer to the QC- sheet of Conveyor)	LT 49	
50	Manual starter switch 110 VAC	LT 50	
51	Horizontal side guard -- high	LT 51	
52	Horizontal base side rails for LT, RH	LT 52	
52A	Horizontal base side rails for LT, LH	LT 52A	
53	Pressure strip, 70 x 3 mm, RH	LT 53	
53A	Pressure strip, 70 x 3 mm, LH	LT 53A	
54	Wear strip LOFRENE, 40 x 4 mm, RH	LT 54	
54A	Wear strip LOFRENE, 40 x 4 mm, LH	LT 54A	
55	Stainless steel sheet metal belt pan-- Horizontal section	LT 55	
56	Nut, M8	LT 56	
57	Drive chain (Sold in 10ft. pieces incl. master links)	LT 57	1
58	Motor sprocket	LT 58	1
59	Motor mounting plate for LT	LT 59	
60	Gearmotor (Motor data: refer to the QC- sheet of Conveyor)	LT 60	
61	Transverse steel support -- motor	LT 61	
62	Chain guard	LT 62	
63	Screw, TCES M8 x 20	LT 63	
64	Screw, TCES M8 x 12	LT 64	
65	Hex head screw, TE M8 x 12	LT 65	
66	Axle chain tensioning sprocket, 25x28.5 (upper channel)	LT 66	
67	Axle chain tensioning sprocket, 20x26 (lower channel)	LT 67	
68	Chain tensioning sprocket - Nylon -	LT 68	2
69	Horizontal side guard -- low	LT 69	



Pos.	Description	Order #	Recommended Spare Parts
70	Base frame	LT 70	
71	Set screw, M8 x 30	LT 71	
72	Channel cover - PVC black	LT 72	
73	Plastic profile end caps, base frame	LT 73	
74	Double angle bracket, base frame	LT 74	
75	Lock washer, Ø 8 mm	LT 75	
76	Hex head screw, TE M8 x 20	LT 76	
77	Hex head screw, TE M8 x 12	LT 77	
78	Shaft for intermediate roller, Ø15 mm	LT 78	
79	Shaft for drive roller, Ø15 mm	LT 79	
80	Spacer drive shaft 9.5mm	LT 80	
81	Drive roller sprocket, 24 teeth	LT 81	1
82	Drive roller	LT 82	
83	Set screw, M8 x 10	LT 83	
84	Screw, TCE M5 x 12	LT 84	
85	Base header guard with flap	LT 85	
86	Plastic end cap for leg	LT 86	
87	Telescope for LT	LT 87	
88	Perforated leg for LT	LT 88	
89	Pin with plastic ball	LT 89	
90	Pivoting casters, Ø60 mm	LT 90	
91	Screw knob Ø40 mm M10 x 15	LT 91	
92	Base frame header	LT 92	

I. HOW TO ORDER SPARE PARTS:

1. Determine the part number by utilizing the above spare part drawing and spare parts list.
2. To this number add the serial number of the Conveyor.
3. ***Example:*** You want to order a Conveyor belt for your Conveyor with the serial # CE 000.

The Part number for a replacement belt is: **LT 05**

The Serial number of the Conveyor is: **CE 000**

THE ORDER NUMBER IS: LT 05 CE 000



